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The Personnel Journal

Continuing the Journal of Personnel Research

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The Personnel Journal

THE PERSONNEL JOURNAL publishes original investigations in the applied sciences that contribute to knowledge and effective direction of people at work.

THE PERSONNEL JOURNAL is published for the Personnel Research Federation whose object is "the furtherance of research activities pertaining to personnel in industry, commerce, education, government, and other fields, wherever such researches are conducted in the spirit and with the methods of science."

THE PERSONNEL JOURNAL renders a service not only in centralizing information about personnel research, but also furnishes a continuous accumulation of authoritative material in this field. Significant contributions by specialists in the biological and medical sciences, psychologists, psychiatrists, engineers, and economists, have been published.

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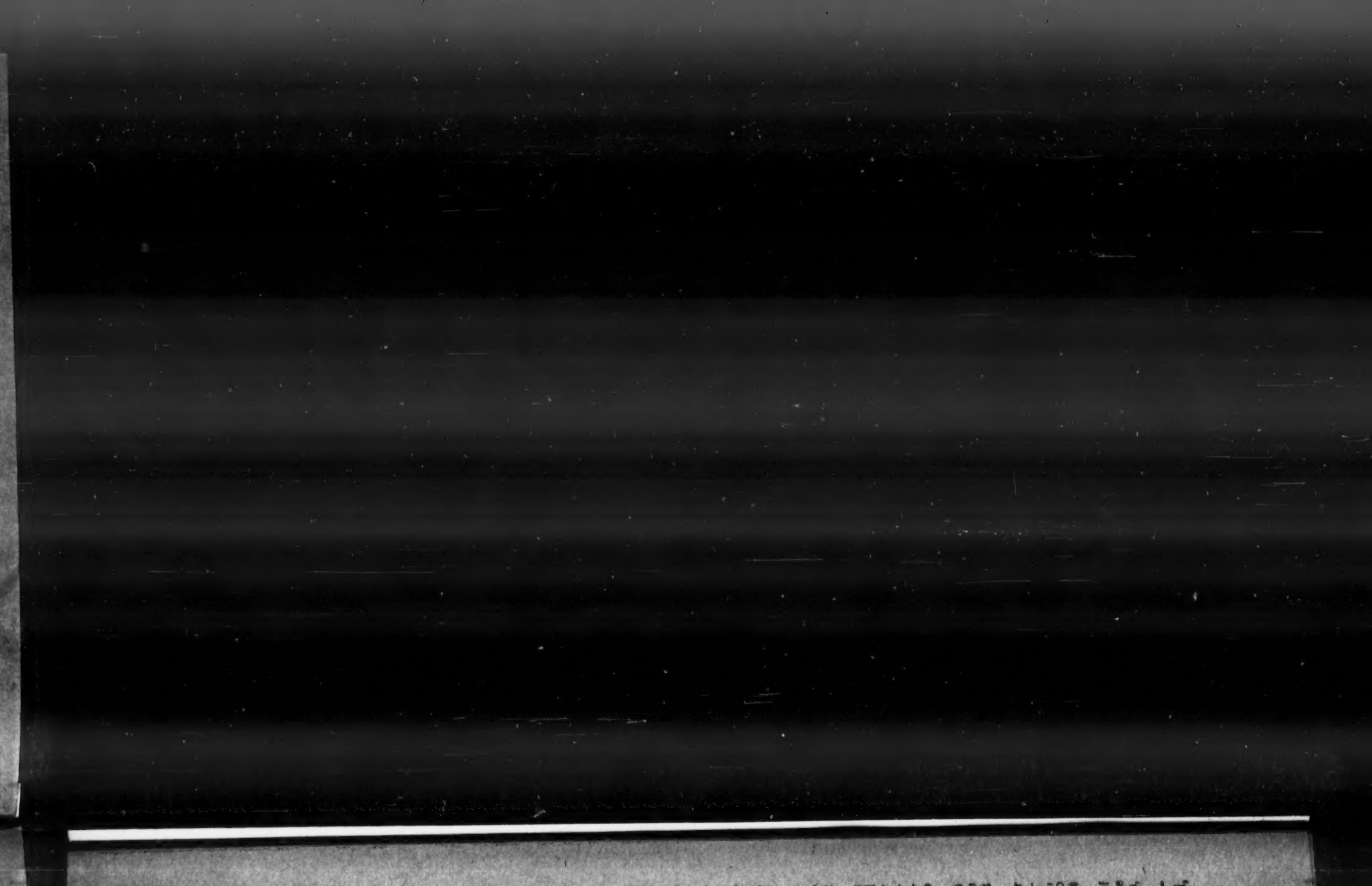

American Report to the I. R. I.

Development of Fundamental Relationships Within Industry in the United States

By Glenn A. Bowers, Lillian M. Gilbreth, Mary van Kleeck, H. S. Person, W. V. Bingham, C. R. Mann, W. J. Donald, Edith King Donald, and Florence C. Thorne

This summary of the American Report to the First Triennial Congress of the International Industrial Relations Association (I. R. I.) will whet the reader's appetite for the entire volume which contains not only the separate papers on which this summary is based, but also illuminating reports from a score of other countries.[1]

INDUSTRIAL relations, and not alone politics or war, may profitably engage the international mind. While industrial development has progressed farther in some lands than in others, all in some degree face similar problems of human adjustment in an industrial civilization. And human nature is much the same in Switzerland, Uruguay, and Japan.

To effect an interplay of thought and experience, there was founded in June, 1922 the International Association for the Study and Improvement of Human Relations and Conditions in Industry. Under its auspices several conferences and brief summer schools have been conducted. At the first Triennial Congress, held last summer in Cambridge, England, its precise but cumbersome name was changed to the International Industrial Relations Association.

For this Congress the report on the development of fundamental relationships within industry in the United States of America was prepared. Five approaches to the subject from as many different angles were embodied in separate papers by various specialists, after which the committee in charge prepared the following Summary.

[1] Obtainable from the Russell Sage Foundation, Room 600, 130 East 22nd Street, New York, price $1.25. The price of the reprints of the complete American report is twenty-five cents.

Summary of Report

By Lillian M. Gilbreth, Ph.D., Mary van Kleeck, and Glenn A. Bowers, *Chairman of Committee*

In the United States of America the fundamental relationships of people in industry are rapidly changing and the influences responsible for these changes are many and complicated. They are so inextricably woven into

the fabric of political, industrial and social life that it is bewildering to try to isolate any one. What are the most influential factors? How are they interrelated? What is the actual effect of each? No reasonable person pretends now to know. Yet the definite trends that are discernible are evidences of efforts to work out some sort of coherent system. In few instances do these efforts represent the concerted endeavor of all those interested. On the contrary, one of the conspicuous habits of the past which has been carried over into the present is that of regarding each phase of industrial relationships as a unit to be approached and dealt with separately. Frequently also those interested in one particular phase completely ignore the activities of other groups or even oppose them.

There are, however, in America indications of a desire to coördinate these group philosophies and activities, also of similarity of approach to outstanding problems. Already this spirit of consideration for all aspects of the total situation is of practical usefulness. In the preparation of this report the facilities of seven substantial organizations were immediately available. The historian of the future may possibly look back upon such coöperative projects, of which this is but one example, as the beginnings of a new viewpoint in the efforts to resolve conflicts in industry. Indeed, if there be one outstanding characteristic of labor relations in American industry in 1928, it is the approximate uniformity of philosophy and *modus operandi* of dominant groups. It is encouraging to note that organized and unorganized employers and employees are pinning their faith on constructive coöperation for the advancement of their respective group interests and are using similar and often identical language in voicing their aspirations.

In this brief summary of six papers only hasty reference can be made to some of the most important influences in American industry. The five factors in the development of fundamental relationships especially considered are those of primary interest to the I. R. I., namely:

Scientific Management
Education
Industrial Psychology
Personnel Administration
Labor Unionism

These fields of interest inevitably overlap. The functions and tentative accomplishments of each of these will be treated here under the following six categories:

1. The worker and his work
2. The worker and his immediate supervisor
3. The worker and his fellow workers
4. Managers and workers
5. Owners, managers, and workers
6. The entire circle of contacts

In each of these six areas the above named factors have been influential in varying degree. As to present day objectives in industrial relationships, there is general agreement among the organizations representing the viewpoints of management, workers, and scientists which have coöperated in this report; public and private pronouncements of the several representa-

tive bodies include the following in various forms of expression:

1. THE WORKER AND HIS WORK

Discover and present in concise form the requirements of the job.

Evaluate, insofar as possible, special abilities of the worker.

Develop training facilities appropriate to the job.

Conserve the workers' energy through finding the easiest and most natural ways of doing the work, thus reducing fatigue. Increase the quality and quantity of output.

Provide fullest opportunity for growth, individual expression, initiative and advancement of the individual in proportion to his ability.

Encourage workers' participation in improvement of methods and conditions of work and in the elimination of waste.

Compensate the individual in proportion to his special ability and contribution wherever practicable.

2. THE WORKER AND HIS IMMEDIATE SUPERVISOR

Provide clear and definite instructions in work assignments.

Make the immediate supervisor a skilful instructor and an understanding helper of his men.

Assure the reasonableness of work requirements through the determination of a proper day's work.

Set up safeguards against the misuse of powers of supervisor over individual.

Develop and maintain the worker's appreciation of his share in responsibility for the product.

3. THE WORKER AND HIS FELLOW WORKERS

Provide equality of opportunity and remove discrimination between individuals.

Develop an *espirit de corps* which will harmonize competing interests, real or imaginary, for the attainment of the common goal.

Preserve freedom of association of workers for the advancement and protection of special group interests.

Devise and preserve a wage plan which is equitable as between workers.

4. MANAGERS AND WORKERS

Share responsibility for the development of sound policies of administration.

Facilitate the association of workers for joint dealings with management through a predetermined orderly procedure.

Provide regularity of employment.

Pay the highest practicable wage consistent with enduring operation under existing competitive conditions.

5. OWNERS, MANAGERS, AND WORKERS

Develop clear understanding of functions, rights, and responsibilities of these overlapping groups.

Devise and maintain an orderly procedure for harmonizing the interests of each group.

Seek an equitable distribution of rewards among workers, management, and capital.

Yield earnings for employees which will permit a rising standard of living and the accumulation of adequate reserves for incapacity in old age.

6. THE ENTIRE CIRCLE OF CONTACTS

Combine in each producing unit the efforts of all persons associated with it for efficient output in quality and quantity.

Discover by methods of science how the requirements of industry and the capacities of men may be adjusted.

Coördinate the needs of industry and society through training and education.

Conduct the industrial enterprise that it may best serve the society of which it is a part.

Such are the goals of American industry. How is this master job being approached? What has been accomplished?

The *methods* used by various groups are again great in number and of wide variety. Foremost in the technique common to all groups is reliance upon "facts." In the search for facts about industry, regardless of the manner in which those facts are to be used, the methods of science are almost universally acclaimed. The amount of research into man's relation to work now under way in our universities is enormous. Industrialists, both managers and workers, are watching these experiments for the first glimmer of results and frequently undertake to apply them prematurely and without adequate preparation. Direct attempts are also being made by companies, manufacturers' associations, technical and professional bodies, trade unions, and the government to discover the meaning of current situations and to anticipate new developments.

Unquestionably this fever for research has resulted in important changes of method in certain sections of industry, in the creation and use of mechanical appliances, and in the development of new management procedures. Yet only a beginning has been made in the economical conservation and application of man-power. In this field great progress has been made in the reduction of accidents through the use of mechanical safeguards and awakened caution among workers. Two factors contributed to this end: accident compensation legislation and voluntary efforts of employers and employees in organized campaigns. Both of these approaches began about 1910.

Attention is now being turned toward similar reduction in the sickness hazard. The average loss per worker on account of sickness is between eight and nine days per year which is about seven times that due to accidents. The total loss from illness has been reliably estimated as $2,000,000,000 per year.

The industrial loss due to irregularities in employment and to unemployment fluctuates, of course, with the state of industry. No adequate public statistics are available to determine its extent. A dozen relatively small employers have set up unemployment compensation plans for regular employees, while several unions of the needle trades have developed such plans under joint agreement with employers. Not more than 50,000 workers are covered by plans of this type.

Wastes due to strike or lockout are naturally the most spectacular. No national machinery exists for the avoidance or settlement of such con-

flicts, although the principle of arbitration is widely accepted and used. The conciliation service of the United States Department of Labor frequently exercises a potent influence in critical industrial disputes.

The application of man-power on the job also affords a vast area for improvement. In not many plants do conditions exist which permit the exercise of the workers' best sustained efforts. Failures in planning and routing materials and supplies and in providing working conditions and human relations of the right sort result in untold waste. In fact, rarely is a full day's work definable under present circumstances.

This brief recital of existing industrial wastes serves but to focus the problems for which employers, employees, and industrial scientists are seeking solutions. The most promising field of rapid development lies in the direction of better human relationships.

Present programs for solutions are of very recent origin. Scientific management as originated by Frederick Taylor has had the longest history among those here considered, yet it did not receive widespread attention until 1910. Industrial psychology, notwithstanding its twenty years of struggle, has not yet made a perceptible mark on American industry as a distinct science. Consciously planned personnel administration had its beginnings between 1910 and 1915 and after radical changes in basic notions has only now become a recognizable function of management. The readjustment of educational curricula to meet the needs of twentieth century industrial society is a post-war development, while the present changing policies of organized labor are as yet in an embryonic stage.

The methods of industry for improving the relations between *the worker and his work* are much the same in all groups. Discovery of the requirements of the job and the capacities of individuals calls for a technique in which there is little occasion for difference of opinion. Actual accomplishment in job specification already has been substantial in that practical pattern forms have been devised and are in daily use in large and small establishments The extent to which these are applied throughout industry is, however, limited. The analysis of individual capacities is still in the experimental stage. Universities and colleges are developing many forms of objective testing and hundreds of thousands of individual case records, which will eventually permit comparison with life histories. Industry in general is skeptical of this attempt at appraisal of personal capacities. A generation of workers and managers will doubtless pass through industry before this tool is adequately developed and widely applied.

This experimentation is all aimed at securing freedom of opportunity that releases individual energy. Meanwhile the selection, placement, and promotion of the individual worker is being made through the use of expediency measures, often reasonably successful for present purposes.

In this concentration on the worker and his work, the supervisor plays an

essential part. Upon *the worker and his immediate supervisor* rests the responsibility for the work in process. The foreman is as powerful an influence for good or evil today as ever. In former times his methods were commonly unquestioned by his managing superiors. He hired and fired upon his own authority and was expected to get production in his own way. Several influences within the past two decades have been focused on the foreman and his job. The practice of basing decisions on facts serves to limit the range of his responsibility through the development of planning, scheduling, routing, stockroom orders, and other tools of scientific management.

The growth of trade unions and company employee representation plans at first curtailed the freedom of the foreman particularly in stating what he could not do. More recently, however, the tide has turned and the foreman is taking on a new kind of responsibility. He is now the key administrator through whom practically all personnel activities become effective. His authority is enhanced by providing him with more effective tools of administration. The workers' relations with the foreman have become more closely interrelated as a result of the more intelligent efforts at coöperation in efficient production.

The introduction of training programs is an aid to the foreman first by helping him to study his own task, second by placing more capable workmen on the job in shorter time, and third by teaching him how to train both new and older workers to work more effectively.

Relationships between *the worker and his fellow worker* are of three general types. Historically and even predominately today the worker is related to other workers only as an individual. In a sense each is a competitor for the job of his neighbor. Fortunately there have been enough jobs for all, except during intermittent periods of depression. Secondly, some 4,000,000 or more workers are associated in trade or industrial unions for the protection and advancement of their group interests. Thirdly, workers of many individual establishments are associated in the company or plant for direct organized contact with management. Perhaps 1,700,000 are under this form of joint relations. Within these latter two types there are many variations in form.

It is doubtful that scientific management, industrial psychology or education had any noteworthy influence upon the development of these particular group or joint relationships just mentioned. The labor union and the employee representation movements were rather sponsored respectively by employees and employers. Labor organized primarily to improve working conditions in backward industries. Employers subsequently devised company organizations of employees because they felt that the community of interest between the employees of a single company was greater than that between employees of a craft or industry; also because they did not like the outside control which ordinarily accompanies trade union recognition. Trade unionists maintain that this type of joint relations does not best serve the interests of workers

because of inequality of bargaining power. They believe that the first requisite of any organization of workers is that it must be able to establish and maintain itself by economic force, if necessary.

Up to the war period labor unions had been engaged mainly in a struggle for recognition and the establishment of certain minimum standards. Some of the older unions which had already attained an accepted status had also shown an interest in and capacity for working with management to solve problems of operation. This was notably true in the share which the typographical union had in the introduction of the typesetting machine into the printing industry. But the struggle for recognition in most cases had been accompanied by bitter industrial strife and methods were used which were not a credit to either party. At least, there developed a distrust between union leaders and managers which precluded, for the time being, coöperation for constructive purposes. The desire for cooperation with employees in plans of repeated strikes and lockouts prompted certain employers to set up the new form of employee-employer relationship with the company or plant as the unit. The idea of cooperation had a magic appeal. Although coöperation did not always result from the new plan, employee representation on a company basis did serve to crystallize in American industry the function of coöperation between the parties immediately involved.

Principally as a result of war-time joint relations, but also as a natural evolution of thought, managers and owners came to accept the principle of collective bargaining. Some, however, refuse to limit this operation to dealings with unions and insisted that agreements arrived at with employees of a single company, frequently with arbitration provisions, also constitute collective bargaining. Whatever may be the correct view, it is certain that many of the company plans established or stimulated by employers could not be abandoned without a strike of the employees under it.

Thus changing relationships between the worker and his fellow-workers have brought about a new status individually and collectively between *managers and workers*. The post-war extension of this philosophy of cooperation has not been limited to any one group or any one type of joint relationship. A momentous development has taken place grounded on the principle that increased wages and standards of living can only be attained through efficient production. In company plans, employees have coöperated with management in the elimination of accident hazards, the reduction of scrap and other forms of waste, and to the making of suggestions under systems of reward. In certain unionized industries there has grown up union-management cooperation of a substantial sort. The employment of technicians and engineers as aids in this participation in management has been especially noteworthy.

In this two-phased coöperative movement the ultimate goals sought by the trade unionists and the ad-

vocates of the company employee representation movement, as expressed by the leaders of these groups, are identical. Both want a prosperous industry which will pay high return in the form of wages, salaries and profits. Both believe that enduring prosperity will result only under conditions which free the creative abilities of all involved in the enterprise. Whatever may be the form of joint relations, the methods used by workers and managers coöperating constructively are of the same order and kind. Such methods include participation in planning, suggestions for improvement of methods and working conditions, conferences, and in the exercise of other functions and procedures involving judgment. Although the form of organization does not in itself induce or prevent the use of coöperative tactics, it is a vital factor when trade union recognition is questioned. In such cases the immediate goal of the workers is recognition. In fact, some observers have regarded the willingness of unions to coöperate primarily as a bid for further recognition.

Managers and workers are in this manner being drawn into a community of interests which have hitherto prevailed only to a limited degree. This has been enhanced somewhat by the changing relationships between *owners, managers and workers.* On the one hand owners and managers have become separate entities as the corporate stock form of industrial organization has taken the place of managing partnerships, while on the other hand the spread of capital ownership has made the employee a factor as an owner of securities. This new employee position is not confined solely to employee holdings of stock in the company for which he works, but includes also investments in savings banks, insurance policies and the potential business operations of trade unions. It is true that these evidences of employees as capitalists do not carry with them much direct power over industrial policies. Such power is being attained rather through the demonstration of ability to aid in determining policies in an increasing number of situations which permit it.

An important element in this changing economic status of workers is the present widely held theory that high wages enhance purchasing and that industry thus expanded yields increased rewards for all parties. It yet remains to be seen how long this theory will prevail in actual practice. Widespread unemployment or a general industrial depression would put the theory of high wages to a crucial test.

It may be seen, therefore, that the manager and the worker are enhancing their positions in the triumvirate with capital and that the interdependence of the family circle—*the entire circle of contacts* is more clearly recognizable. In fact this philosophy of mutuality of interests, multiplicity of responsibility, and integration of purposes and methods appear to be the emerging ideal of American industry. However, if this be the goal it is yet a long way from accomplishment. The hopeful sign lies in the apparently narrowing area of conflict and the extension of the area of coöperation.

It would be extremely unwise to attribute to any one movement the blame or credit for the industrial relationships which exist in the United States today. There is plenty of stigma and glory for all. Each has had its influence, either in one direction or another. In some cases there has been unanimity of purpose and methods; in other instances there have been divergent viewpoints. Nevertheless, out of this mosaic the following outstanding accomplishments may be credited each to the movement which was dominant in seeking it.

Scientific Management has contributed a new viewpoint and a new technique; it has laid the groundwork for the recognition of functional relationships in industry; and it has set up operating situations which develop habit patterns of understanding, cooperation and high productivity.

Industrial Psychology has focused attention on the individual worker and his job; it has brought into the foreground mental processes and emotional reactions in industry as fields for scientific study.

Education is developing a basis for creating situations in which the individual will have maximum opportunity to do the work he is best fitted to do and his natural aptitudes will be given free range of expression through individualized training.

Personnel Administration has demonstrated the importance of meeting personal needs of workers and adjusting them to the requirements of the individual producing unit; it has applied many of the tools of science without calling them scientific.

Organized Labor has been a prime and potential factor in raising the standards of living of American workers; it has been a strong force in support of capitalistic industry, and is contributing substantially to the enlistment of workers' full efforts in production.

Finally, the existing relationships in industry have doubtless developed as they have in America because of influences that are more basic than, or at least precedent to, the five especially considered in this paper. For one hundred and fifty years Americans have been engaged in conquering a continent of vast natural resources under a political organization perculiarly their own. A philosophy of individualism clearly expressed in the early days of the republic has laid its imprint on industrial development. Only in this century has the doctrine of the priority of public interest come to be generally accepted, and even yet its application is far from general. Scientific management, industrial psychology, education, personnel administration, and the labor movement each represent conscious attempts to direct the development of fundamental relationships within industry in ways which will benefit all those concerned, whether immediately or remotely.

The authors of five of the six papers on which this summary is based have prepared the following abstracts of their contributions.

Scientific Management

By H. S. Person, Ph.D., *Taylor Society*

The factors involved in the organization and coördination of specialized efforts for the accomplishment of a common purpose are numerous, variable and difficult of casual valuation. Too frequently policies, plans and procedures are based on individual authority, opinion or snap judgments, and consequently energies are misapplied, results disproportionate to efforts, rewards inequitably distributed, and human nature violated.

Scientific Management by the utilization of investigation and experiment seeks to eliminate superficial variables, discover the laws of each particular managerial situation and, through appropriate procedures, to substitute these laws for personal authority and opinions. It aims to economize energies, secure maximum rewards, make self-expression and self-respect realizable in every task, and generally to promote human welfare through harmonious coöperation in livelihood activities.

This involves primarily a state of mind towards managerial responsibility and a method of approach towards the solution of managerial problems; not the speedy installation of an inflexible system of procedures. It involves purpose, ideals, investigation, understanding, and prolonged and patient effort. It involves human sympathy and capacity for coöperation.

The capacities of organizations for the development of these characteristics vary greatly. Therefore scientific management varies greatly in both fundamental and superficial aspects as between different plants. There are few examples of complete development, but there are many instances of varying degrees of partial development, and American industry as a whole has been profoundly influenced by scientific management.

[Published in full in the Proceedings of the Cambridge Congress of the I. R. I., vol. I, pp. 17–31, and in the Taylor Society Bulletin, November 1928, vol. XIII, pp. 199–205.]

Industrial Psychology

By W. V. Bingham, Ph.D., *Personnel Research Federation*

Influences limiting the progress of industrial psychology in the United States have been: the backwardness of the science itself; the demand for services of psychologists in other directions, notably in education; and the tradition among psychologists that many questions of industrial psychology are the exclusive prerogative of the management engineer.

Psychological problems have been recognized in connection with the individual worker's relations to his work, his fellow-workers, his supervisor, the management, and the entire circle of contacts outside the factory.

The social psychology of relations between groups—of workers, managers and public—is no less important. These industrial relations have been influenced in three ways: by psychology as science, as point of view, and as method.

Facts about the nature of individual differences, the specificity of abilities, and the laws of learning, of interest and attention, have modified industrial practice. Use of statistical techniques is spreading, but controlled experiment has been sadly neglected.

In conclusion, mention is made of agencies for furthering industrial psychology in America.

[Published in full in the Proceedings of the Cambridge Congress of the I. R. I., vol. I, pp. 32–56, and in the Taylor Society Bulletin, November 1928, vol. XIII, pp. 187–198.]

Education and Industry

By C. R. Mann, Ph.D., *American Council on Education*

In the U. S. A., education is now regarded as a process that continues throughout life. The purpose of schooling is to give the young: tools and attitudes of social living; opportunity for self-expression and growth through useful work; habits of self-education. Since work occupies about two-thirds of a normal life, business, industry and the professions are recognizing that they are educational institutions and that their greatest success depends on how far the daily work is educative to the worker. The world's work is being analyzed to discover what are the tools and attitudes of social living so that schools may impart them effectively. Many experiments with objective tests and other methods of appraising personality are being made to find practical means of guiding each to the work he can do best. Success in Democracy is measured by growth of people.

[Published in full in the Proceedings of the Cambridge Congress of the I. R. I., vol. I, pp. 57–62.]

Personnel Administration

By W. J. Donald, Ph.D., and Edith King Donald, *American Management Association*

Beside the trend toward decentralized responsibility in personnel administration, several tendencies are apparent in selection, training, labor supply, research, the make-up of personnel departments, wages and salaries, profit-sharing, compensation of executives, hours of work, vacations for manual workers, pensions, stock purchase and savings plans, insurance and benefit plans, vocational adjustment, health and sanitation, safety, service to employees and joint relationships between employers and workers.

A growing interest in personnel administration includes a consideration of sales and office personnel

problems, inasmuch as new forms of competition have necessitated cost reduction. Factory executives who have long been cutting costs are now urging that similar economies be devised by the marketing and office departments. Attention is now being concentrated on those personnel activities which make for sound business, increased earnings for workers as well as profits to the company, increased purchasing power for the community and consequent business prosperity.

[Published in full in the Proceedings of the Cambridge Congress of the I. R. I., vol. I, pp. 63–83.]

New Developments in the Labor Movement

By Florence C. Thorne, *American Federation of Labor*

The American labor movement has distinctive policies and agencies to meet New World conditions. Its outstanding characteristics are its philosophy of voluntarism, emphasis on economic agencies, rejection of the class conflict philosophy, and advocacy of coöperation to promote the interests of all concerned in production. The interest of the American trade union centers on the job itself. It seeks betterment in hours and wages as the medium to other opportunities. American trade unions have declared that increasingly higher standards of life can be maintained only through increasing productivity, and thereby recognize their interest in more efficient production. This brings the union to a concern for work processes.

The American Federation of Labor is emphatically advocating educational methods and research, and is taking the lead through its official journal.

The most significant development of American trade unionism is union-management coöperation. Where collective bargaining has provided fair conditions of work and mutual confidence, it is possible for workers to make a constructive contribution in the work itself. These contributions represent craft or creative interest in the job and are of various forms—such as the engineering production service of the printing pressmen, maintenance of craft membership by the full fashioned hosiery workers, up to provisions for specific organization for union management coöperation developed for railroads.

Standard labor unions in the United States are the only agency that maintains social standards for the workers and serve to unify and stabilize terms of employment throughout the industry to accord with progressively higher standards.

[Published in full in the Proceedings of the Cambridge Congress of the I. R. I., vol. I, pp. 84–102.]

An Executive Training Course

By Fredonia Jane Ringo, *Research Bureau for Retail Training, University of Pittsburgh*

Writing in the Journal *in 1924,*[1] *Miss Ringo mentioned the intention of the Research Bureau for Retail Training, in coöperation with several member stores in Pittsburgh, to install executive training courses based upon a master training program. This program was made up of thirty-three outlines for lectures, each with its accompanying suggestion sheet. The present article shows the value of this training program.*

The results of a course maintained for four years by the Research Bureau for Retail Training and five coöperating Pittsburgh stores are described. The personnel of the group, with its bearing on graduation from the course; the proportion of graduations to enrollments; the promotion among graduates and non-graduates; the chief causes which led members to drop out before finishing their work; and certain suggestions for steadily raising the standard of the course are briefly presented.

THE Research Bureau for Retail Training, coöperating with certain of its member stores in Pittsburgh, began an executive training course in the fall of 1924. During the four years which have elapsed since that time, there has been some opportunity to judge the worth of the training given. Two stores, Kaufmann's and Frank and Seder's, have participated in the course from the beginning; two others, Joseph Horne Company and The Rosenbaum Company, have taken part for three years; and Gimbel Brothers has had the course for one year. In all, 300 people have enrolled and 183 have graduated. While figures concerning the course are not sufficiently extensive or refined to furnish any high statistical proof, they are definite enough to point out certain trends and to answer certain questions regarding the course.

[1] Fredonia Jane Ringo. *What Buyers and Assistant Buyers Need to Know.* Journal of Personnel Research, November, 1924, Vol. III, No. 7, p. 235–243.

THE TRAINING COURSE

A little knowledge of the general plan of the course is essential for an understanding of what has or has not been accomplished. The work has been divided between the Bureau and the stores. Each year Bureau staff members have given approximately two-thirds of the total of 60 lectures and each store has arranged for its executives to give the other third. For the Bureau discussions (con-

ducted two evenings a week) members from all participating stores have assembled, and information of interest to stores of various types and sizes has been presented. At the store meetings (held once a week, in the morning) only members of the organization concerned have been present, and only the store's own procedures and problems have been discussed. As a usual thing, each of the twenty topics discussed has been handled by a different executive, if possible by the store's expert on the subject. Since the course was planned distinctly as something requiring study and thought, assignments and examinations have always been a part of the work.

PROPORTION OF GRADUATION TO ENROLLMENT

In considering the fact that in four years 300 people enrolled and 183 of them graduated, naturally the question arises, "Has it been worth while to conduct a course for this percentage of graduations?" The fact that only 61 per cent of the people who enrolled completed the work may or may not seem to prove something to store executives. To one store, which in three years graduated 36 out of the 41 people enrolled, figures alone go a long way to justify the existence of the course. To another store, however, in which only 20 out of 44 people finished, numbers are not particularly encouraging. In spite of the low proportion of graduations in this store, certain important executives have always endorsed the work and have used their influence to have it continued. They have considered the 20 who went through the course rather than the 24 who did not.

People interested in executive training may well inquire the reasons which made members drop out of the course before the end. Records show that almost 30 per cent of the non-graduates left during the year, either of their own accord or because the organization decided to dispense with their services. Approximately another 30 per cent definitely found the course too much for them, because it was very hard for them to do concentrated studying, because their store duties were too heavy to permit them to do anything more, because they became ill, or because (in the opinion of training directors) they were poor choices and should never have been admitted. Almost 20 per cent probably could have done the work but felt that it was not worth their while to put forth the effort required for preparing assignments. Approximately 20 per cent dropped out for reasons which were not definitely given. One cause back of non-graduation was failure to select the group strictly: admitting people whom the store did not think valuable enough to keep for a year and admitting people who were not able and willing to do the required work. Another cause was the amount of work necessary in preparing assignments. Many people found it difficult to give the required time to this work, even though the conditions of the course had been explained to them in the beginning.

PERSONNEL OF THE GROUP

Quite as important as a consideration of the number who enrolled and

who graduated is an analysis of who these people were. Executive training, as it has been carried on in stores throughout the country, has reached various levels of store people. Sometimes there has been practically a buyer's group, at other times there have been chiefly assistant buyers, and in some instances enrollment has been open to a much more varied personnel. In Pittsburgh, as it worked out, the course might perhaps more accurately have been called a junior executive training course, since only 28 per cent of the people who enrolled had executive positions[2] at the time. It was made clear at all times and in all stores that no advancement was promised to members who finished the course, but certain capable sales people and non-selling employees applied for membership and were admitted. The group, then, was distinctly varied, especially at the evening meetings, when members assembled from several different stores.

Perhaps some explanation is needed for the fact that a relatively small number of executives enrolled. Training directors have accounted for the fact by the following reasons. Certain executives were known to be so busy with their regular duties that they were not encouraged to register for work which would take a good many hours of their time. Some stores felt that recently appointed executives could not assume any more responsibilities; others decided, however, that since inexperienced people especially needed help, they should be advised to make the extra effort required by the course. Some young executives felt that the work would be a repetition of business administration courses they had had in college. They wanted to attend the store lectures but not to give up any evenings for the more general discussions. The plan of the course did not permit them to enroll for only a part of the work. Many executives were undoubtedly discouraged by the work outlined for the course. They decided that the attendance, assignment, and examination requirements would be more than they were willing to undertake.

Why the third reason did not tend to keep out practically all applications from heads of stock, sales people, and medium or minor non-selling employees is hard to understand. The desire of non-executives to be admitted may be accounted for by the fact that ambitious people in the ranks particularly sought means of getting ahead (although no promises of advancement were made), and by the fact that plenty of these applicants had been farther in school than many executives and they were not awed by the thought of hard study. Undoubtedly some people were interested merely because the name "executive training course" had a certain glamour for them and because they felt that executives would look on them with favor if they seemed to be enterprising.

[2] Buyers, assistant buyers, and people in high non-selling positions were the only people counted as executives. It was often hard to judge between high and medium non-selling positions, but an effort was made to be conservative and to rank as executives only those who carried a great deal of responsibility.

EXECUTIVES AND NON-EXECUTIVES AMONG THE GRADUATES

"How did the number of executives who completed the course compare with the number of non-executive graduates?" is a question which will certainly be asked. The figures here give a proportion of approximately 22 per cent executives to 78 per cent non-executives. This shows that the executives were a little less likely to go through with the course than were the non-executives, since approximately 28 per cent of the people who enrolled were executives at that time and only 22 per cent of the graduating group were executives. The drop does not seem particularly significant, however. It is important also to notice the causes which led executives to drop out. Reasons for failure to complete the work did not vary greatly when compared for executives and non-executives, except that executives proved less likely to leave the store and more likely to feel that it was not worth their while to go on and to work out assignments.

PROMOTION AMONG GRADUATES

It has always been definitely stated to applicants that no promotions are promised to executive training graduates. Furthermore, when a graduate has been advanced, it has usually been impossible to tell how much the course has had to do with bringing about the promotion. A study of the advancements which have occurred is, however, always interesting.

Of 183 graduates, 39 per cent have been advanced, 26 per cent of them to positions as buyers or assistant buyers or to high non-selling positions. In some cases a promotion has marked a long step (for example, from sales person to buyer); in other instances it has meant advancement from one position to the place next above it. Frequently people who have not been promoted have been mentioned as doing better work on the same job after taking the course. Sometimes there has not yet been an opportunity for them to be given more authority, and sometimes they have proved to be people who could be strengthened at the work they were doing but could not be given more responsibility. It is not possible to say what effect the course may have had in improving the work of any of these people.

Promotions among people who failed to complete the course should be considered also. Of 117 non-graduates, only 15 per cent have been advanced, as against 39 per cent among the graduates. Most of the 15 per cent have been given important positions, but nearly twice as large a percentage have been promoted to equally good jobs from the group of graduates. In the two stores where there was the most noticeable tendency for non-graduates to be advanced, the course was not so well organized or supervised as it was elsewhere, and it seems evident that certain capable people did not consider the course worth while and therefore they dropped out. Since the members were considered worthy of promotion, the blame for their quitting seems to belong chiefly to the conduct of the course, although it is possible that at times selection was at fault. Some people were probably admitted who were not likely to be interested in the work though they might be fitted for, perhaps even in line for, certain promotions.

Judged from a purely statistical standpoint, the course certainly cannot be said to have attained a 100 per cent success. When it is realized, however, that 183 people have fulfilled the requirements of rather an exacting course and that 88 of them were executives or have since been advanced to executive work (as buyers or assistant buyers or high non-selling people), figures seem significant. Such a group, scattered in important positions throughout the stores, may prove so many centers from which better and more practical operation and merchandising may be radiated.

DEVELOPMENTS FOR THE FUTURE

Both the stores and the Bureau are interested in improving the content and administration of the course and the selection of the group. Certain developments which have been made during the past four years have proved helpful. For example, setting a maximum enrollment quota for each store has tended to exclude people who are not capable of doing the work required. It is hoped that other improvements may be worked out for the future.

The Lasalle and Koch Company, of Toledo, which is affiliated with the Bureau and uses the Bureau executive training material, has been successful in having each member of its course prepare an individual report discussing a problem important in his own department. Effort to do good work on this report, and on other assignments also, has been stimulated by the plan of offering the class leader a trip to New York. While such a reward may not seem advisable to all stores, specific recognition in a store paper or in a letter written by some member of the firm may prove a satisfactory substitute. Better choice of members and increasingly higher standards of work are hoped for in order to make the course steadily more valuable.

AFTER GRADUATION, WHAT?

One Pittsburgh store (Kaufmann's) very early met the question "What can we, as a group, do now?" Built on this interest and encouraged by the training director, plans were worked out for an alumni association. A simple organization was perfected giving the members a maximum of responsibility for the association, and a plan for monthly dinner meetings was instituted. A progressive point of view has been fostered by having a speaker at each meeting, and a pleasant spirit has been maintained by having music and opportunity for social conversation. The plan offers one practical suggestion for keeping alive the interest which the course has aroused and for stimulating further thought and professional spirit on the part of the members.

All of the stores to some extent, some of them to an important extent, have made the executive training work the basis for interest in other courses in universities and technical schools. People have been helped to find satisfactory classes in subjects which especially appeal to them in accounting, business law, business English, and the like. The executive training discussions have formed a survey course in retailing, and training directors have encouraged graduates to enroll in specialized classes and continue, more intensively, the study they had begun.

High Wages and Fair Wages

By Thomas T. Read, *New York*

Dr. Read, who presents this refreshing analysis of the concept of high wages, was a prime mover in the organization of the Personnel Research Federation eight years ago. He is now one of the editors of Mining and Metallurgy.

The distinctions usually made between "wage" and "salary," "laborer" and "entrepreneur," are questioned. The contrast is made between real and apparent wages. It is contended that wages in this country are fair only to the extent that the groups involved have yet been able to ascertain a fair basis of division. Wages are high when this wage which is considered fair for a given output of work is paid for a less contribution to the public good. Such high wages are maintained in vocations where those who practice them are able to prevent others from engaging in them; and by restricting the amount of work done in a day.

TO THE nimbus of ideas which many Europeans entertain of the United States,—that this is a land of cowboys and Indians with local centers for bootleggers, gunmen, and easy divorce,—there has been added another concept; that this is a land of high wages. Possibly we are glad to find something on which we can agree, at any rate such an idea seems to find general acceptance here as well. But before agreeing that this is a land of high wages we need first to ask ourselves what are high wages, for the meaning of the two words is by no means perfectly definite.

WHEN ARE WAGES HIGH?

A rough individual definition of high wages is that it is any sum larger than the person concerned receives. An example that would be amusing if it were not so serious is the persistent refusal of Congress to permit the payment to special experts in the executive branch of the Federal government of salaries approaching those the Congressmen themselves receive. The chief of a large Bureau should be, and is, in most instances, a man of better education and more ability than a Congressman. He certainly has more responsibility than the average member, but except in a few large Bureaus his salary is only two-thirds as much. Congressmen fix the salary schedules for themselves, for Bureau chiefs, and for "government clerks" (ordinary office employees). Those who have made a special study of this matter all agree that the rates of pay for the workers in the lower salary ranges are equal to those paid by business houses for similar work, but the rates paid high executives and

special experts are much below those paid by business houses for equivalent work. So we arrive at the apparent paradox that the workers in government employ who get the most money for their services are those that get low wages, unless they are Congressmen, and so able to fix their own wages.

This at once precipitates a discussion as to whether the term *wages* can be extended beyond its dictionary meaning of pay, at fixed intervals, for labor, usually manual or mechanical. A moment's reflection indicates that as a matter of fact the dictionary definition is not adhered to in industry except to indicate a method of wage payment. If the worker's pay is computed by the quantity of work done, or the hours or days actually worked, it is termed *wages*. Some workers who are paid by the week consider their pay *wages* and others consider it *salary*, a much more dignified term. Workers whose period of compensation is reckoned by the month or half month are always called salaried employees, although they may, and not infrequently do, get fewer dollars per month than wage earners. Girls who operate computing machines are usually on a salary basis, though their work is more mechanical than the operation of many other kinds of machines where wages are reckoned by the piece or by the hour. An artist who makes drawings at a certain price for each one considers he is paid a fee (which is even more dignified than a salary); a worker who paints chairs at so much for each considers he is paid wages. It does not seem feasible in any broad discussion of the subject to restrict the meaning of the word wages to either remuneration for certain kinds of work ("chiefly manual or mechanical") or to a method of reckoning payment for work, since the distinctions made between wages, hire, pay, stipend, salary, emoluments, and fees are not important in a study of what a man does and what he receives in exchange for his labor.

Nor does the sharp distinction exist which economists attempt to draw between the man who works for another and the man who works for himself,—the laborer and the entrepreneur. A salesman who sells something he has made, getting for himself the whole price, a salesman who sells something another has made, getting only a commission, and a salesman who is paid by the week are three people whose social functions are essentially the same though their motives for efficient performance of their functions are different. The first is an entrepreneur, the last a laborer, and the second is neither or perhaps a mixture of both. Making and selling apple-pies is an enterprise; one who is engaged in it would be an entrepreneur. A skilled pie-maker might hire someone to sell them. The selling would then be labor, paid with a wage. Or a salesman might hire someone to make them, the making would be labor, paid with a wage. If both making and selling are labor all that is left is the ownership of the equipment and the direction of the enterprise, and both of these are really labor, because the making of the equipment was labor and everyone who has assumed responsibility for an undertaking knows that direction of others is harder labor than working under direction.

REAL WAGES VS. APPARENT WAGES

In this view of the matter nearly all persons are workers who receive wages in exchange for their work regardless of whether they are ditch-diggers, dancers in a cabaret, preachers of the gospel, or owners of a manufacturing business. *High* is an adjective of comparison and nothing can be high of itself, but only high in comparison with something. A recently published chart, showing in dollars, that the average wage of workers in the American steel industry is now about double what it was in 1913, and is approximately six times the wage of workers in the French steel industry (whose wages slightly declined between 1913 and 1927) is an example of the latter comparison. If we are content to push the inquiry no further it seems evident that steel workers' wages in the United States are higher now than they were in 1913 and much higher than steel workers' wages in France.

The error in so simple an analysis is evident from a little further investigation. Suppose that, by general agreement, all prices were doubled in the United States. The worker would get double the wages, expressed in dollars, but since he would also pay double for everything for which he exchanged his wages his relative situation would be quite unchanged. In other words, his real wages would not have changed, although his apparent wages would have doubled. Without further information it is impossible to say whether steel workers' wages today are really higher than they were in 1913, or whether they are higher than those of French steel workers.

The average price of the more important commodities at different times and places is not difficult to obtain, and a simple solution would be to ascertain the average of commodity prices at the two times or places, divide the average wage by its corresponding price index, and compare the results. This has been done, and the conclusion announced that real wages in this country have considerably increased in recent years. With this conclusion I would agree without accepting it as a complete analysis of the problem. Steel workers now, reasonably and wisely, exchange their wages for radio sets and automobiles, which cannot be included in a price index of more than a few years back because they were not being made before that. Silk stockings and dresses for his women folk are now a reasonable item in the steel worker's expense budget but this was not true a relatively few years ago. Without having made any study of the living scale of steel workers in France I believe it is safe to assume that radio sets, automobiles, and silk stockings do not appear in their expense budgets.

WHEN ARE WAGES FAIR?

To find the fundamental relations involved it is necessary to analyze something simpler than modern industry but analagous to it. Take the case of a whaling expedition where the crew of the vessel collectively provide the vessel, its supplies and provisions, and agree to divide the total of whale oil secured. Assuming that each one provided an equal part of the initial expense (which would not usually be true) it is necessary to arrive at some basis of comparison as to how much

each contributes to the success of the venture after it has started. It is evident that it will make little difference in the amount of oil gained no matter whether the boy who washes dishes in the cook's galley does his work well or not, but it will make an immense difference whether the man posted in the crow's nest to look for whales does his work well; every whale he fails to see is a lost chance for gain for everyone. The skill of the man who harpoons the whales is even more critical. A clumsy stroke may end not only in the loss of the whale but also in the destruction of the boat. Human experience has worked out a tentative set of values to be applied, and in organizing such an expedition the customary ratios of division would be approximated. But a man who was unusually skillful with the harpoon might reasonably ask for an increase over the usual ratio and his associates would agree to it as fair to all. Comparing him to the usual harpoon man he would be getting a high wage, but in comparing him to his associates in the enterprise he would be getting only a fair wage.

Within the limits of national boundaries modern society may be regarded as a huge coöperative enterprise. All the diverse things that people want and use are the result of the work of all the economic group. The fair division of the total that is produced is a matter of great complexity, and it is inevitable that there will be difference of opinion as to whether it is fair because there are, so far as I know, no basic ratios of division. New relationships are continually arising that are adjusted by agreement, where agreement is possible, and the fairness of the settlement nearly always remains open to question.

Two examples may clarify the problem. If ten persons are knitting in a hot room and they find by experiment that if one fans the other nine they can do as much in a day as ten did without the cooling effect, the scene is set for a wage controversy. The one who does the fanning might argue that he is entitled to more than a tenth of the total product because the workers are more comfortable than they were before, which is worth something to them. The workers will decline to give even a tenth, on the ground that they are able to find people who can fan, but not knit, and may prove this point by securing someone with crippled hands to do the fanning for half the wage of a knitter. This person may be glad to get the job and consider himself well paid, whereas the other would be dissatisfied at twice the wage. At the recent prize-fights each of the contenders received a sum many times greater than is paid the President of the United States for a year's service. On any rational basis of comparison, no sensible person will maintain that they received a fair wage, even if their period of preparation for the contest is taken into account. The general ratio of division of gate receipts among winner, loser, and promoter was established years ago when gate receipts were not large. Increase in public interest in prize-fights and the provision of mechanism for making the spectacle at least partly visible to a large number of spectators has increased the wage of fighters and promotors to a point where it bears no

relation to their contribution to the general welfare.

If, however, the wage of modern prize-fighters is not a fair wage, how can they get it? According to theoretical economics the most that a worker can get is fair wages, for if he asks too much someone else will do it for less. Unfortunately, someone else often cannot do it because he lacks advertising value. Many, perhaps nearly all, of those who assembled at the recent contest were certainly too unskilled in judging a prize-fight to distinguish any difference between the fight they saw and one that might have taken place between two almost unknown fighters. But they paid liberally to see the one and would not have paid anything to see the other. The advertising that increased the receipts was free advertising secured through the clever exciting of human interest. If the Hall-Mills or Snyder-Gray murder trials had been staged in the Yankee Stadium with adequate amplifiers there seems little doubt that the gate receipts might easily have exceeded those of the prize-fight. One of the plays running recently in New York was a murder trial of much less interest than either of these; but the public was solicited to attend it, while it was practically excluded from the other two. The inevitable conclusion is that, in many instances, there is no logical basis for the wage that people are able to get for what they do, and yet I confidently assert that in a broad way current wages represent the best approach that human beings, negotiating with each other, have been able to make to fair wages. The Black Bottom teacher thrives when the craze is on but suffers when it wanes, unless he can do something else, just as the country blacksmiths, and handworkers generally, have suffered unless they can do something else when the demand for their service slackens. Fundamentally, what the group is willing at any time to concede to the individual is a fair wage.

LIVING WAGE

The most absurd concept that has ever arisen in regard to wages is that of a "living wage." If three men are marooned on an island they obviously cannot live unless they do the work necessary to enable them to live. On a South Sea island where the climate requires neither clothes nor shelter and edible fruits and fresh water are abundant, they may be able to live without any work except such as they may be willing to do to make themselves more comfortable. If one is willing to work to build a house to protect him from the rain the others have no inherent right to occupy it. One may be able to construct an adequate house in a week, another less skilled might labor a month without producing more than a sorry makeshift. If, on the other hand, the island is in the Arctic Ocean they would have to work hard merely to keep themselves alive in acute discomfort most of the time. There are no fundamental human rights involved in such situations. Men benefit to the degree that they are able to control the circumstances that surround them. The "living wage" concept was strangled shortly after its birth by the perception that if its validity was admitted it logically followed that those who contribute only un-

reasoning labor to the total production were entitled to no more than a bare living. Actually, of course, they are entitled to their fair share, so far as it is possible to determine it.

CONCLUSIONS

Fair wages

If we concede that wages in this country are fair only to the extent that the groups involved have yet been able to ascertain a fair basis of division, the question still remains as to whether they are fair compared to wages in France, for example. Again we must consider a concrete case and ask whether one-sixth the amount, in dollars, that American steel-workers get is a fair wage for French steel-workers. According to our argument this wage is fair as compared to other workers in France; is it fair as compared to steel-workers in America? Before such a question can be answered agreement must be reached on some basic elements in the problem. The first of these is whether tariff protection is fair, and the second whether restriction of immigration is fair. It is not likely that the editor would grant me the space to argue either of these, and it is not necessary, for in a theoretical democracy we are constrained to accept the decision of the majority. Public opinion, except for a few self-interested racial groups, is well-nigh unanimous in believing in the restriction of immigration, and both political parties agree on the need for a protective tariff. They only differ on the amount of protection necessary. Granting these, it then follows that the wage of the steel-workers here is fair as compared to that in France. Our steel sells in Argentine, Brazil, and elsewhere in competition with that from France even though South Americans tend to favor European products rather than North American. Why the French worker gets so small a part of the price of a ton of steel in the world's markets is no mystery. What he does in a day is so small a part of the making of a ton of steel. Here most of work of making steel is done by coal, the productive effort of the worker is multiplied by power, and the American steel-worker who makes six times as much steel in a day as the French worker quite fairly gets six times as much for doing it.

High wages

If wages for different kinds of work in one country are (in a broad way) fair, and wages for the same kind of work in different countries also fair, are there then no high wages? Of course there are, and some instances of unduly high wage have already been discussed. There are many more and, broadly speaking, wages are high in every vocation where those who practice it are able, through organization or otherwise, to prevent others who wish to do so from engaging in it. By refusing to work on any job where non-union labor is employed and by restricting the number of those admitted to the union more than one craft connected with the building industry, for example, successfully maintains its wage above the level that the free play of demand for work and willingness to work would set. Another means of exacting high wages is by restricting, through agreement among the workers, the amount of work they

will do in a day. Often this defeats itself, as in the case of the British coal miners who, by insisting on such working conditions that the possibility of producing coal at a profit is progressively vanishing, are gradually doing away with the possibility of their receiving a fair wage. By restricting their productive output and insisting on a fixed wage level for producing a commodity whose price is fixed by international competition, they will eventually and inevitably do away with a part at least of their employment through the cessation of production. Bricklayers in this country are in a safer position, because the price of a brick house is little affected by international competition. While the demand for brick houses is undoubtedly somewhat lessened by the excessive cost of construction, the tremendous increase in building furnishes as yet ample employment. The brick laying required in connection with a twenty-story loft building in one of the side streets of New York, where building after building is in course of erection, amounts to as much as would suffice to construct a small village of homes. And in cities like Washington the permanence of brick construction is being attained without increasing the total cost of a home by building scores of incredibly ugly houses in solid rows on narrow lots. The high wages of the brick-layers are paid at the sacrifice of any attempt at individuality or beauty in the exterior of a house or its surroundings.

Many dollars per day for a large output of work useful to society is a *fair* wage; the same number of dollars paid for less contribution to the public good is a *high* wage. High wages so defined are not characteristically American; they are characteristically un-American.

Intelligence and Scholarship of Occupational Groups

By L. D. Hartson, *Oberlin College*

The relative intelligence of different occupational groups has been a lively question ever since the publication of the Army Alpha test results. Professor Hartson here summarizes the data for a homogeneous group of college graduates.

The relative intelligence, scholarship, and achievement of college graduates in several occupations was computed on the basis of three sources of data: the 1926 directory of occupations of the Oberlin College Alumni; psychological tests given to seniors and freshman since 1919; and the scholastic grades of members of classes 1920 to 1926 inclusive.

In intelligence, the group of women in the college teaching profession shows a marked superiority, while those in the art and physical education groups show the lowest test scores. In scholarship, the college teaching group again ranks first, with the business men and physical education group at the bottom of the list. In achievement, the physical education group stands high, and the journalistic and business men groups low. But it is pointed out that the duller student is almost certain to have the higher achievement quotient.

The only generalization made in this study in reference to the relationship between intelligence test scores and scholastic marks is: as a rule, the men make a better showing in intelligence tests than in scholastic grades, whereas the women make a relatively higher scholastic record than one would predict from their test scores.

IN 1926 a directory was published which reported the occupations of the Oberlin College alumni. A summary of these data appeared in the October, 1928, issue of the Personnel Journal. Since 1919 it has been the practice at Oberlin to administer psychological tests to the seniors, as well as to the freshmen. The third source of data for this study was the office of the registrar. The subjects of the study are the members of the classes 1920 to 1926, inclusive, of the College of Arts and Sciences. The study presents a comparison of vocational groups on the two bases,—their intelligence test scores and their average college scholastic grades.

Different intelligence tests were used each year in the following sequence: the Thurstone Form IV, Part 2 of the Thorndike Freshman Test, the Brown University Test, the Ohio State University Test, and several combinations

of tests compiled at Oberlin. In order to make the results of the various tests comparable, percentile scores were computed, each class furnishing its own norm. The total number of subjects is 1135, all of the alumni in these seven classes being included except those in occupational groups represented by less than 15 individuals. The professional groups include the men who were enrolled in graduate schools as well as those engaged in professional practice. Table 1 and the accompanying figure 1 present a comparison of these occupational groups.[1]

Table 1 shows the central tendency (Q_2) and the variability (the range from Q_1 to Q_3) for each of the groups. Group sequence was determined according to standing in the intelligence tests. The rank in scholarship is also indicated. In the graphic comparison of the groups, shown in figure 1, the bar diagram has been constructed on the basis of the per cent of each group reaching or exceeding the median of the entire group. As some of the groups are quite small, this method seems to furnish a more adequate basis for comparing them than does

TABLE 1

Intelligence test scores and scholarship of occupational groups

OCCUPATION	TEST SCORES				SCHOLARSHIP			
	Rank	Q_1	Q_2	Q_3	Rank	Q_1	Q_2	Q_3
College Teaching—Women	1	49	77	89	1	79.5	83	88
College Teaching—Men	2	43	65	83	5	77.5	80	84
Secretarial Work	3	41	59	73	2	77	80.5	83.5
Journalism	4.5	41	57	85	12	74	77.5	84
High School Teaching—Men	4.5	24	57	75	11	77.5	78	80
Medicine	6	33	54	78	16	74	77	79
High School Teaching—Women	7	26	53	71	5	77.5	80	84
Religious Work	8.5	18	51	78	5	77	80	83.5
Law	8.5	20	51	71	16	74	77	85.5
Music	10.5	24	50	73	5	77	80	83
Business—Men	10.5	25	50	72	21	74	76	78.5
Other Educational Work	13	24	49	72	5	76	80	83.5
Engineering and Scientific Work	13	21	49	75	9	75.5	79	81.5
Business—Women	13	32	49	58	16	74.5	77	80.5
Library Work	15	21	46	82	9	75.5	79	81
Salesmanship	16	16	44	71	16	73.5	77	80
Social Work	17	22	41	73	16	75.5	77	81.5
Y. M. C. A. and Y. W. C. A.	18	26	39	71	16	73.5	77	81.5
Physical Education—Women	19	24	35	50	20	74.5	76.5	81
Art	20	20	27	70	9	78	79	83.5
Physical Education—Men	21	9	20	31	16	73	77	80.5

[1] Most of the *hart arbeit* involved in the construction of the chart should be credited to Paul B. Means and W. H. Brentlinger, of our department. Mr. Means computed much of the data, but the chart in its present form is the work of Mr. Brentlinger, Mr. Means' successor.

the method of comparing the averages. The number of individuals in each occupational group is indicated in the column at the right of figure 1.

teaching profession shows a marked superiority over the other groups. In 82 per cent of the cases, their test scores equalled or exceeded the median

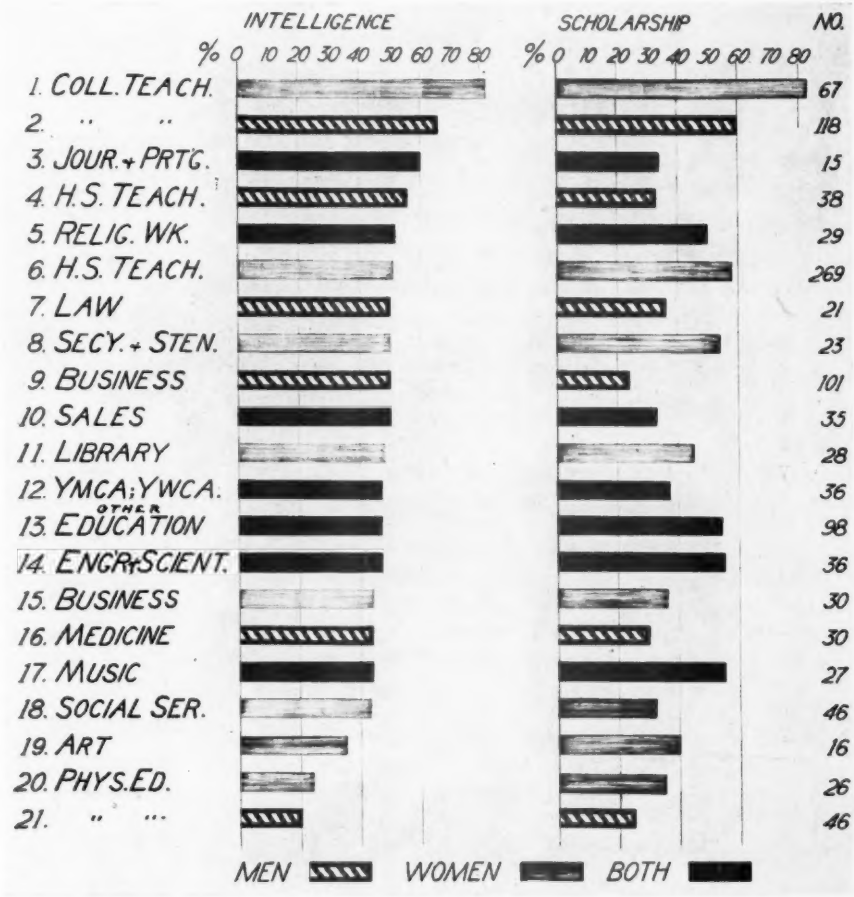

FIG. 1. OBERLIN ALUMNI OCCUPATIONAL GROUPS

Per cent reaching or exceeding median in intellegence and in scholarship

INTELLIGENCE OF OCCUPATIONAL GROUPS

One's interest is first attracted to the relative standing of the groups in the intelligence tests. The group of women who have entered the college

score of the entire group. Then follow the men who have entered college teaching, the journalists, and the men entering high school teaching. These four groups show a statistically reliable superiority over the other groups. The differences in rank be-

tween the groups ranking from fifth to eighteenth place, inclusive, are not great enough to be significant or reliable. The art group and those in physical education, however, made distinctly lower test scores. The fact that the artists and physical educators are at the foot of the column raises the question whether one is justified in generalizing concerning the intelligence of groups with such specialized abilities, on the basis of the type of tests which was here employed. It will be noted, however, that the physical educators are rather far down on the scholarship list, which suggests that the type of intelligence measured bears some relationship to the abilities required for success in the general run of academic subjects. The art group is too small to use as a basis of generalization.

SCHOLARSHIP OF OCCUPATIONAL GROUPS

The portion of figure 1 presenting the comparisons of scholastic records again shows the college teachers at the top. Apparently the relatively large number of Oberlin graduates entering the college professorship are being selected from her best product. The groups next in order are composed largely, if not entirely, of women: the teachers, secretaries, musicians and librarians. The engineers and scientists rank well up in the list.

TABLE 2

Relative achievement of occupational groups

GROUP RANK	OCCUPATION	RATIO
1	Physical Education, Women	35 ÷ 24, or 1.46
2.5	Music	55 ÷ 44, or 1.25
2.5	Physical Education, Men	25 ÷ 20, or 1.25
4	Engineering and Scientific Work	55 ÷ 47, or 1.18
5.5	Education not otherwise listed	54 ÷ 47, or 1.15
5.5	Art	40 ÷ 35, or 1.15
7	High School Teaching, Women	58 ÷ 51, or 1.14
8	Secretarial Work	54 ÷ 50, or 1.08
9	College Education, Women	83 ÷ 82, or 1.01
10	Religious Work	50 ÷ 52, or 0.97
11	Library Work	45 ÷ 48, or 0.94
12	College Education, Men	60 ÷ 66, or 0.91
13	Business, Women	36 ÷ 44, or 0.82
14	Y. M. C. A. and Y. W. C. A.	37 ÷ 47, or 0.79
15	Social Work	32 ÷ 42, or 0.75
16	Law	36 ÷ 50, or 0.72
17	Medicine	30 ÷ 44, or 0.69
18	Salesmanship	33 ÷ 50, or 0.66
19	High School Education, Men	33 ÷ 56, or 0.59
20	Journalism	34 ÷ 60, or 0.57
21	Business, Men	24 ÷ 50, or 0.48

ACHIEVEMENT OF OCCUPATIONAL GROUPS

Table 2 summarizes the relative achievement of the occupational groups, when this is computed by dividing the length of the bar in the scholarship diagram by the length of the bar in the intelligence diagram. An "achievement quotient" might also be computed by dividing the average scholarship of each group by its average intelligence test score. A table reporting these results would reveal an almost perfect negative correlation with the rank order in the intelligence tests. This fact indicates that the ratios in table 2 do not indicate the relative application or industry of these students, as is implied by the usual interpretation of the significance of the achievement quotient. These data furnish a perfect example of one of the errors inherent in the achievement quotient. It will be noted from table 1 that the range of average scores in the intelligence tests (Q_3) is 57 points, whereas the range in the scholastic grades is but 7 points. In order to graduate, a student must have an average grade of approximately 70. As the intelligence test results were computed as percentile scores, and the students were tested as seniors, there were some with a percentile score of 1. The duller student is almost certain, therefore, to have the higher achievement quotient. Perhaps the only safe generalization to draw from this computation of the relationship between intelligence test scores and scholastic marks is this: as a rule, the men make a better showing in intelligence tests than in scholastic grades, whereas the women make a relatively higher scholastic record than one would predict from their test scores.

(*Manuscript received March 22, 1928.*)

Measuring Musical Talent

Seashore Tests as Administrative Aids

By Hazel M. Stanton, *Eastman School of Music, University of Rochester*

Professor Seashore's tests for measuring some of the elementary and indispensable components of musical talent have for several years served useful purposes in the Eastman School of Music. As administered by Dr. Stanton, these objective methods have effectively supplemented the more usual procedures in appraising applicants for admission, classifying students, and guiding the course of their musical education.

Various uses of the Seashore Measures of Musical Talent in the Eastman School of Music are described, together with the results which are developing from this procedure. The Seashore Tests are an integral part of the administrative functions of the School in that they are factors in determining admissions, eliminations, and relative permanence of students; in conferring with students, teachers, and parents; in sectioning freshmen for the course in theory; in awarding scholarships; and in modifying the range of talent estimates made by teachers.

THE Eastman School of Music, which is a unit of the University of Rochester, admits three groups of students; namely, the preparatory, the special, and the regular course. The total enrollment is about 2000, of whom 400 are in the four year course leading to a degree or certificate. The *preparatory* group includes all children of school age, the *special* group refers to adults who study but one instrument or voice, and the *regular course* includes all adults who register for a four year course.

Since the academic year 1921–22, the talent of students in the school has been determined by the Seashore Measures of Musical Talent. The talent as indicated by these tests is expressed in terms of A, B, C+, C−, D and E.

In addition to the test information a questionnaire is filled in by each student giving data regarding musical environment, musical training and education, musical interests, musical memory and imagination. Teachers of instruments and voice fill out rating forms twice annually, one rating form being used for each of their students. The factors rated by teachers for each student are musical talent, musical feeling, technique, rhythmic action, quality of tone, application and achievement. For the first two years of the school's organization these

rating forms were sent to teachers from the office of the writer, and teachers rated only those students who had been tested. During the third year, 1923–24, the acting director adopted this rating form for all pupils in the school whether or not they had been tested. Since that time the rating forms have been distributed from the registrar's office.

TESTS AS AIDS IN SELECTION OF STUDENTS

During this third year an attempt was made to measure the talent of every student in the school and to measure the talent of new students before entrance. For the first time test results were considered by the acting director in passing upon admissions. At the beginning of the fourth year, 1924–25, sufficient data regarding test results and teacher's ratings were at hand to present to the members of the music school faculty. As a result, action was taken by the faculty not to admit D and E talent as determined by tests. This applied to all the students of the preparatory, special, and regular course. From this time registration was re-arranged so that all applicants were tested previous to entrance.

It was then possible for the writer to make definite recommendation for admission in one of three ways; recommended for admission, not recommended for admission, or admission conditional. This recommendation for preparatory and special applicants was determined by test score, educational status, and chronological age. For example, preparatory pupils *not recommended* for admission include all pupils with D and E talent and those with C−talent if they are significantly retarded in public school. Special students *not recommended* for admission include all those with D and E talent and those with C− talent (1) if they have not had a high school education, (2) if they are forty years of age or older.

During the year 1925–26, of 609 applicants tested, 61 or 10 per cent were not recommended for admission to the school. The next year, 1926–27, of 643 applicants tested, 66 or 10.3 per cent were not recommended for admission.

This year, 1927–28, recommendations for *preparatory and special students*, which were previously made to the registrar, are now made to the new assistant director of the school. In addition to the psychological tests each applicant has an audition in voice or on an instrument previous to admission. All recommendations for *regular course students* are made to the director of the school as was done previously.

TEST SCORES KEPT CONFIDENTIAL

It has been the policy of the school not to inform teachers, students, and parents, of the talent as indicated by tests either by systematic distribution of this information or in conference. There are several reasons for this policy. The most important reason, psychologically, is the fact that the tests measure certain musical *capacities* and not musical achievement. Students and parents have been trained for years to interpret a mark in terms of achievement. Therefore their interpretation of a test rank is

invariably confused and transferred to an achievement mark. The fundamental and permanent nature of a capacity rank—I say permanent here in comparison to the temporary nature of an achievement mark—this more permanent significance of capacity as measured cannot be given due proportion in its relation to other influencing factors when a person's capacity rank is given in an isolated way to an inquiring parent, friend, or guardian.

This same point refers to the giving of students' test ranks to teachers of instrument and voice, but not to such a degree. The opportunity of conveying to teachers the true significance of a test rank is greater than that for parents. Teachers, however, are not informed systematically of the test ranks for all their students because of the definite influence which knowledge of the test ranks would have on their ratings. Their estimates in terms of ratings are made from a different point of view and teachers should be free to express these estimates in a qualitative manner.

Students also are not informed of their test ranks. Their inevitable exaggeration of its meaning would result in a distorted interpretation. For all conferences, however, the psychological report is a dominant factor in determining the nature of advice given to those with whom the director or assistant director are conferring.

RELATION OF TEST SCORE TO CONTINUANCE IN SCHOOL

The degree of musical capacities is a significant factor in determining the permanence of students in the school. The greater academic mortality among students of low talent as compared to those of high talent, has been evident since the beginning of the school. In October, 1922, after a one year period, 47 per cent of the C−, D, and E talent had discontinued voluntarily, while only 16 per cent of the A and B talent had discontinued, part of which was due to graduation. In December 1923, after a two and one-half year period, 57 per cent, or nearly three-fifths, of the C−, D, and E talent had discontinued voluntarily, and only 21 per cent, or about one-fifth, of the A and B talent had discontinued. This factor of greater permanence for higher talent emphasized the need of recognizing a certain degree of capacities for the holders of scholarships.

AWARDING OF SCHOLARSHIPS

Scholarships which are remunerative are awarded to students at the beginning of each academic year. Considerations for this award previous to the academic year 1927–28 were based (1) on the performance of each student at the try-out before a special committee, and (2) the proportionate need of financial aid within the group competing. After a time it was realized that this basis was too temporary and not always wise. Faculty ruling now asserts that scholarships be given only to worthy students who have obtained a certain test rank in addition to the above considerations. At the present time this test rank for scholarships must be either C+, B or A.

SECTIONING OF CLASSES

For the past two years all freshmen have been placed in three or more sections for the course in Theory I, this classification having been made on the basis of tests. In addition to the Seashore Tests, a 45 minute comprehension test was used. During the year 1925–26, the writer studied the extent to which capacity tests could form the basis for such sectioning of classes in theory. On the basis of these tests, a total of 126 freshmen were classified into three sections, 32 in the high, 67 in the middle and 27 in the low section. This classification was then laid aside to be compared later in the year with sectioning made by the theory instructor. During this same year the theory instructor grouped these same freshmen into sections, shifting individuals from one section to another at three specific intervals of time, the last grouping proving the most satisfactory from his viewpoint. This grouping by the instructor was done independently of any knowledge of test results or the classification made from test scores. When this third and final grouping by the instructor was compared with the original sectioning on the basis of tests, it was found that 72 per cent of the instructor's high group were in the test high group, 85 per cent of his middle group were in the test middle group and 89 per cent of his low group were in the test low group. The next year, 1926–27, the theory instructor and the writer working together were able to section all freshmen into four groups, at the time of registration. This year, 1927–28, the writer classified all freshmen for the course in Theory I from the test data alone. During the time of the trial sectioning on the basis of tests, the causes of misfits in each theory section were thought due to several factors; namely, lack of complete high school education, inadequate piano training, if the major instrument was some other instrument than the piano, and paucity of experience in ear training, melodic writing, and orchestral playing. The freshmen this year have met the above requirements in a more satisfactory manner, hence the classification on the basis of the tests alone seemed more possible.

MODIFICATION OF STANDARDS

In order to illustrate the variability of teachers' talent ratings and the changes which occurred over a four year period, two figures are presented, one for the semester ending January 1924 and the other for the semester ending January 1927. (See figures 1 and 2.)

1. The height of the solid bars represents the per cent of C+, B, and A talent ratings each teacher gave his students.

2. The height of the open bars represents the per cent of C+, B, and A tests for the same pupils of each teacher.

3. In both charts the bars are arranged in descending order according to the height of the solid bars.

4. The difference of 78 units in the extreme heights of the solid bars in January 1924 is twice as great as the difference of 39 units in January 1927. This decreased difference in the range of teachers' talent ratings indicates a significant improvement in the consist-

ency estimates from various teachers.

5. There has been a decided increase in the per cent of C+, B, and A tests for the piano department over a four year period, from 80.3 per cent to 87.4 per cent, an increase of 7 units.

6. The per cent of C+, B, and A teachers' talent ratings over this same period increased from 44.5 per cent to 83.9 per cent, or 39 units.

Bar diagrams of this kind have been sent to teachers in each department of the school, twice annually for a period of four years. Similar variabilities are evident in the other departments of voice, violin, organ, and orchestral instruments. These variabilities for each department over a period of four years are shown in figure 3 and figure 4.

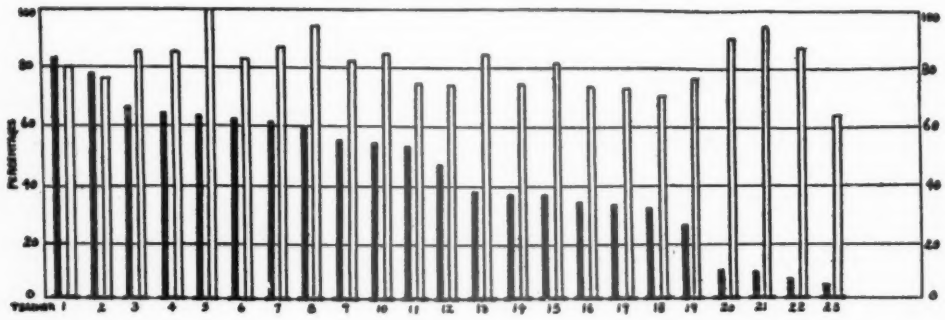

FIG. 1. C+, B, A TEACHERS' TALENT RATINGS AND C+, B, A TESTS FOR THE PIANO DEPARTMENT, JANUARY 1924

Each solid bar represents C+, B, A talent ratings made by one teacher. Each open bar represents C+, B, A tests for the pupils rated by the one teacher. C+, B, A teachers' talent ratings for the department: 44.5 per cent; C+, B, A tests for the department: 80.3 per cent.

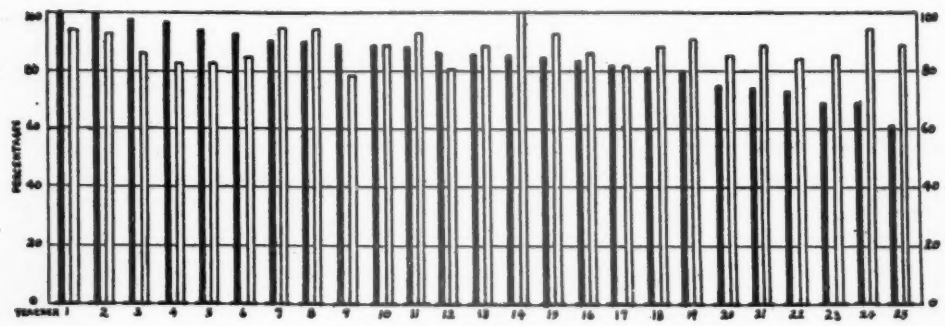

FIG. 2. C+, B, A TEACHERS' TALENT RATINGS AND C+, B, A TESTS FOR THE PIANO DEPARTMENT, JANUARY 1927

Each solid bar represents C+, B, A talent ratings made by one teacher. Each open bar represents C+, B, A tests for the pupils rated by the one teacher. C+, B, A teachers' talent ratings for the department: 83.9 per cent C+, B, A tests for the department: 87.4 per cent.

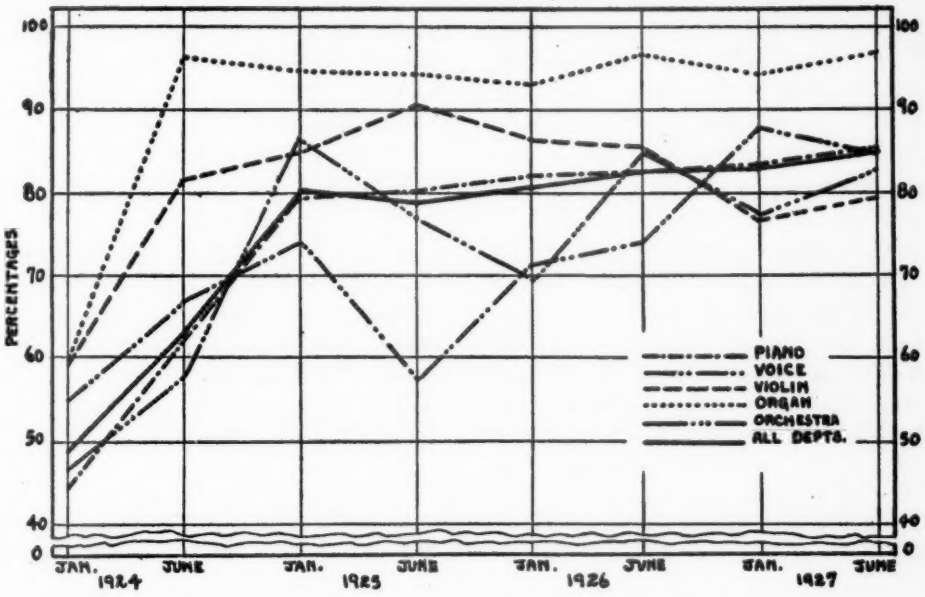

FIG. 3. C+, B, A TEACHERS' TALENT RATINGS BY DEPARTMENTS FOR JANUARY AND JUNE OF FOUR CONSECUTIVE YEARS

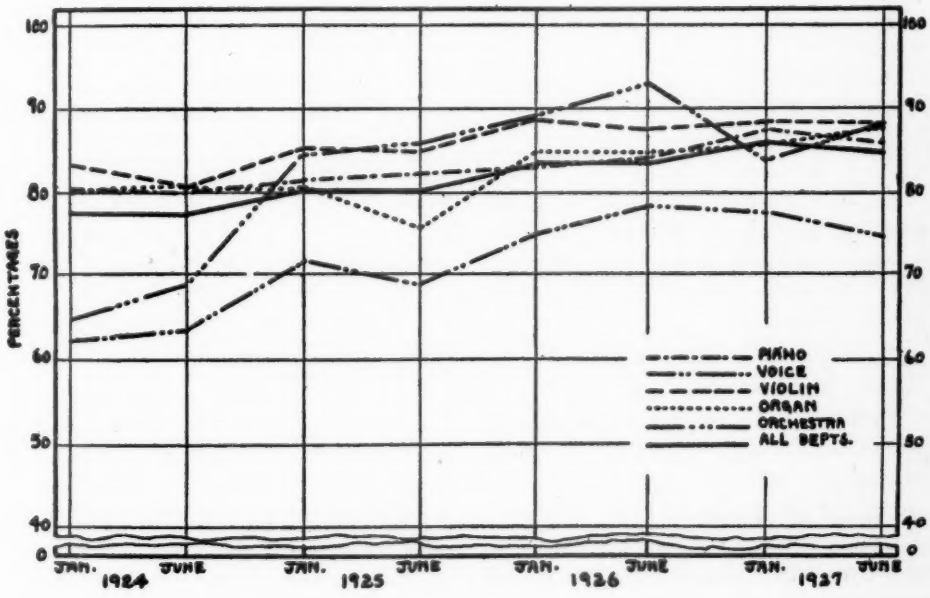

FIG. 4. C+, B, A TESTS BY DEPARTMENTS FOR JANUARY AND JUNE OF FOUR CONSECUTIVE YEARS

1. In figure 3, the sudden rise in all of the teachers' talent rating curves from January 1924 to January 1925, occurred after the first presentation of bar diagrams had been sent to teachers.

2. A very significant fact is outstanding in the test curves, figure 4; namely, that the voice curve is occupying the lowest position at all points, and the violin curve tends to occupy the highest position. This means that the violin department has the highest per cent of C+, B, A talent and the voice department has the lowest per cent of C+, B, A talent.

3. In the teachers' talent rating curves, figure 3, the voice curve tends again to occupy the lowest position and the organ curve occupies the highest position.

4. The increases in per cent of C+, B, and A teachers' talent ratings and C+, B, and A tests for departments, as shown in figures 3 and 4, from January 1924 to June 1927 are tabulated in table 1.

The increase in percentage of C+, B, A teachers' talent ratings for all departments is much greater than the increase in percentage of C+, B, A tests. This is due to the unusually low percentage in teachers' talent ratings for the first year of 1924–25. Most of the increase occurred by the year 1925–26. After the first year the fluctuation of the percentage in teachers' talent ratings is more moderate.

The increase in percentage of C+, B, A tests is very encouraging. The orchestral department, which is inclusive of all instruments other than piano, violin and organ, has the greatest increase in percentage of C+, B, A tests, with the voice department next. The violin department has the least increase in percentage of C+, B, A tests, but this department held the highest percentage of C+, B, A tests in January 1924. There is a significant increase of 7.1 units in the percentage of C+, B, A tests for all departments.

This objective method of presenting the variation in talent of all students in the Eastman School of Music over a period of four years cannot fail to have a far reaching significance in the progress of the school. This information not only stimulates thought, but its possibilities are endless as a basis for establishing standards.

TABLE 1

Increase in C+, B, A teachers' talent ratings and C+, B, A tests from January, 1924, to June, 1927

DEPARTMENT	PERCENTAGE OF C+, B, A TEACHERS' TALENT RATINGS			PERCENTAGE OF C+, B, A TESTS		
	January, 1924	June, 1927	Difference	January, 1924	June, 1927	Difference
Piano	44.5	85.5	+41.0	80.3	85.8	+ 5.5
Voice	54.9	84.9	+30.0	62.3	75.0	+12.7
Violin	58.9	79.5	+20.6	83.2	88.1	+ 4.9
Organ	59.0	96.9	+37.9	80.0	87.5	+ 7.5
Orchestral	46.8	82.9	+36.1	64.7	87.9	+23.2
All departments	48.8	85.0	+36.2	77.6	84.7	+ 7.1

The Machinist Apprentice

III. Comparison of Methods in Five Companies

By W. H. Woodruff, *Rutgers University*

This article, by the former supervisor of apprentice training in the Ingersoll-Rand Company, completes his description of current aims and procedures in apprentice training.[1]

PREVIOUS articles have discussed modern machinist apprenticeship from the viewpoint of recruiting, cost, and training program. This paper tells something of the actual details and methods of apprenticeship used by some of the nationally known machinery manufacturers.[2]

A survey was made of five manufacturers of machinery.[3] These companies, to which we have assigned numbers, may be characterized as follows: Company 1 is a long-established manufacturer of machine tools and of precision measuring instruments; Company 2 is a major plant of one of our largest electrical manufacturing companies; Company 3 is the "mother plant" of another of the large electrical manufacturers; Company 4 manufactures steam turbines and centrifugal pumps and is one of the leaders in that field; Company 5 is one of our largest manufacturers of mining and quarrying machinery and auxiliary equipment.

It will be noted that the automotive industry is not represented. The omission is deliberate, as it is felt that automobile manufacturing, having been built up as a new major industry largely within the past ten to fifteen years, presents a totally different problem in many ways. Without

[1] Part I in this series, *Recruiting, and Costs*, appeared in the Personnel Journal, October, 1927, vol. 6, pp. 173–175. Part II, *The Training Program*, appeared in the Personnel Journal, December, 1927, vol. 6, pp. 258–262.

[2] This article and the two preceding it contain only a very brief explanation of the best features of the new apprenticeship. A more complete description was outlined by the writer in a thesis prepared during 1926–27 as part of the requirements for the degree of Master of Science. The thesis was based on experience during five years when the writer was engaged, among other things, in developing, organizing and supervising such a plan of training for company 5, and also upon a study and analysis as to what was being done by other companies. The thesis has as yet not been published, but the writer will be glad to loan a copy to anyone who is sufficiently interested to ask for it. A set of the three articles is also available, without charge.

[3] Data from five nationally known companies, largely taken from recently received but undated booklets describing their apprenticeship programs.

traditional policies and practices to hamper, it has taken advantage of the opportunity of building everything new from the ground up. Furthermore, quantity production is possible to a much greater degree in automobile building.

STANDARD PRACTICE

After the survey of the five companies was made, it was found that there were many items on which there was general agreement.

The requirements in standard practice preliminary to acceptance in the company are as follows: minimum age to start, 16 years; maximum age to start, from 18 to 20 years; minimum education, eighth grade schooling; an entrance examination in arithmetic; a physical examination (with the exception of Company 5 that does not give any new employee a physical examination); signing of an apprenticeship contract.

After entrance, the general procedure is to require a probationary period of from one to three months, followed by the training period of four years. The hourly rate paid at the start ranges from eighteen to twenty-five cents. Twenty cents may be considered standard practice. This rate is increased at six-month intervals to a maximum of from thirty-one to forty-two cents. In addition, a bonus of $100 is paid upon completion of the apprenticeship. (Company 3 does not pay a completion bonus. This concern discontinued the bonus during the war, for local reasons, and has not as yet resumed the practice.) In three companies, from two to three cents an hour additional is paid to apprentices for merit.

It is the uniform practice to have a definite program of study. Technical study, including mathematics and drawing, is compulsory under the instructorship of the engineering staff. This instruction is given in classes held on company time from two to six hours each week, (usually two hours), except in the summer. Additional home study is required, and athletics are encouraged. In Companies 2, 3, and 5 technical talks by company experts are given. Shop training on fixed schedules is an added requirement in Companies 1, 4, and 5, and progress reports are issued by these companies to parents at regular intervals. All companies award a certificate to the apprentice at the completion of the training period.

It goes without saying that wherever the size of the organization will justify it, a full-time supervisor of apprentices is a *sine qua non* for the proper organization and carrying on of any really effective apprenticeship program.

SPECIAL FEATURES

Other practices were noted, some of which depend entirely upon local conditions, inside and outside the plant, and others which are of a pioneering nature. For example, two companies maintain a separate shop for new apprentices, recruit their men from distant localities, and give instruction in economics, history, etc., in addition to those studies mentioned above as general practice. Adoption of these practices would depend upon the conditions prevailing in any par-

ticular plant. If the aim, for instance, is ultimately to secure high school graduates as recruits, and if the local high schools have a curriculum fairly rich in the really broadening subjects, then there is no need for the employer to provide such courses as economics, industrial history and the like.

In Company 1 two practices are in use which would seem to be totally unnecessary in most situations, and should be approached with a good deal of conservatism, if at all. These are, that living accommodations are provided for the apprentice, and the apprentice pays a guarantee or bond of fifty dollars.

Two other practices represent real pioneering. Company 3 shortens the apprenticeship when unusual progress is shown. If the four-year training period can be appreciably shortened by better organization on the company's part, and by more intensive effort on the apprentice's part, so much the better for all concerned; but proper training must not be sacrificed, and *the hourly rate* at the end of the boy's apprenticeship should be *exactly the same* as if he had taken the complete four-year term.

Company 5 loans a set of tools which is returned upon completion of apprenticeship. This practice is fairly expensive, and may be taken care of in another way if desired. This is to furnish the apprentice with a specified set of quality tools at cost, and to let him pay for them by nominal deductions from his pay spread over the four years. The main thing is to get the proper tools into the boy's hands as fast as he needs them.

This summary of data taken from these five nationally known companies is a fairly complete list of practices in general use, and may serve as a check for companies already doing something definite along new apprenticeship lines. For companies which have as yet not overhauled and rejuvenated their training program, the list should give them something at which to aim.

(Manuscript received March 3, 1928.)

Auto Mechanics as a Field for Junior Workers

By Evelyn Heyman, *Vocational Service for Juniors, New York*

Under the direction of Miss Clare L. Lewis, Miss Heyman has prepared the following account of a study of opportunities for junior workers in ninety-seven New York City garages and repair stations.

OWING to the interest in auto mechanics so frequently voiced by boys applying for work at the Placement Department of the Vocational Service for Juniors, that organization recently undertook a study of this particular occupation in New York City. The aim was two fold; to find out as much as possible about the trade itself, and to ascertain what opportunities it offers to the inexperienced boy under twenty years of age. As a result of the inquiry the following information is presented.

OCCUPATION AS A WHOLE

Automobile mechanics are employed by all garages and service stations where repairs are made. About one-half of the small garages visited do repair work, and all of the automobile manufacturers have large authorized service stations where repair work is done. About 60 per cent of the repair stations visited employ only experienced mechanics. The other 40 per cent will take beginners.

An experienced mechanic has quite an important job. If he is a piece worker, as is frequently the case, he is pretty much his own boss as he works more or less independently. If he is fast and skilful his pay may be considerable. If, however, he is a slow worker or a poor one, his pay will of course be less, especially as the general understanding is that all work improperly done is to be returned to the same mechanic to do over again without extra pay.

In about half of the repair stations studied the mechanics have helpers. These helpers usually work for a fixed weekly wage. The helper is expected to make himself generally useful to the mechanic. He has an excellent opportunity in this way to learn all about an automobile and to acquire the knowledge necessary for becoming a regular mechanic. Some places call their helpers *Greasers*, but almost the same duties prevail and the opportunities are identical. In a few places beginners are taken to do washing and interior work (polishing), but as a rule this type of job is not as good an entering wedge as that of mechanic's helper.

There are a number of cheap schools in one of the garage districts that sup-

posedly teach a boy to wash a car and do interior work, and that promise him a job after a short period of training. The cost of these schools ranges from free training to $25 for two weeks. In many cases these so-called schools merely secure for themselves a few weeks of a boy's labor without wages. When the training is finished they frequently fail to make good in supplying the jobs promised.

There is no union among auto mechanics; consequently there is no set period of apprenticeship.

As a general rule, automobile repair stations are busiest from April through October. The late fall and winter months are the slack season.

PHYSICAL CONDITIONS

Mechanic's work is mostly inside work. There is, however, some outside work connected with it in driving cars. Some repair work, too, particularly during the warm weather, is done outdoors. In the better organized repair stations, controlled by the large automobile manufacturers, conditions are almost uniformly good. In the smaller privately owned stations, conditions vary greatly. Lighting is usually artificial but adequate. There is comparatively little noise connected with the work.

PERSONAL REQUIREMENTS

More than 75 per cent of the employees in the repair stations visited are over 20 years old. About 60 per cent of the stations will employ no one under 21. The remaining 40 per cent will take minors. Of all repair stations studied, only about 5 per cent will take boys under 17. Another 5 per cent will take boys of 17, and 30 per cent will take only boys over 18. In other words, only 5 per cent are willing to take continuation school boys, and only 10 per cent will take boys who are too young to have a driver's license (under 18).

Of the 97 shops visited seven would take colored workers and in five of these the colored employee has the same opportunity as the white to become a skilled mechanic. In the other two instances colored workers were only used as porters or for stock work.

The most common requirements mentioned by employers were physical strength and a willingness to endure hard work. There are no particular educational requirements connected with the job of mechanic. Some managers prefer trade school graduates and others prefer to take inexperienced boys and train them themselves.

HOURS OF WORK

The hours for repair station work vary greatly. In the better stations the hours are often from 8 a.m. to 5 p.m. and one-half day Saturday. In these places there is never any night work. In many of the smaller garages, however, there is both day and night work, and the working day may consist of 12 hours. There is usually an hour allowed for lunch in the larger stations, but in the smaller places meal hours are very irregular.

PAY

In about half of the repair stations visited piece work is the rule. Under this system the mechanic gets 50 per cent of what the station receives

for the repair work. Helpers very rarely work on a piece-work basis. Where they do, they get 20 per cent of the return.

Beginners usually receive $15 per week. The starting salary varies, however, from about $10 to $25 in a few places. A few employers offer a boy $15 per week after he has worked for a two-weeks' training period without salary.

Trained mechanics make about $75 per week. In thinking of these salaries it must be remembered that the work is seasonal and that often only the exceptional mechanic is busy all year round.

OPPORTUNITIES FOR ADVANCEMENT

Opportunities for advancement are good. A boy with any mechanical sense can easily pick up a great deal of knowledge as a mechanic's helper. As vacancies for mechanics' jobs occur, they are usually filled by some mechanic's helper who has made good. It usually takes from two to three years for a hard worker to learn enough to be a mechanic. Beyond the job of mechanic there is little opportunity in this field unless garage management is undertaken.

LAWS AFFECTING THIS OCCUPATION

The labor laws affecting garages and repair stations are, as far as minors are concerned, almost the same as those in factories. The only additional law affecting this class of work is the eighteen-year requirement for a driver's license.

ADVANTAGES AND DISADVANTAGES OF AUTOMOBILE MECHANICS

The advantages of this kind of work are several. In the first place the work is interesting in itself. It lacks the monotony of many kinds of routine factory work. Then too, as already mentioned, the skilled mechanic has the advantage of working more or less independently without too much direct supervision. Finally, a good salary may be earned after a fairly short period of apprenticeship.

The disadvantages of this sort of work are, first, the long and irregular hours frequently encountered in the smaller, less efficiently run places; and second, the dirty and greasy nature of the work, which to some is a drawback. Finally, the seasonableness of the trade is another prime disadvantage, and a disadvantage which applies to the well-run stations as well as to the others.

On the whole, however, auto mechanic does appear to be a trade which, in New York at least, offers a good living to the worker who has the physical strength and an interest in things mechanical.

The Personnel Research Federation in 1928

Annual Report of the Director

By W. V. Bingham, *New York*

The Personnel Research Federation has completed its seventh year. This annual report includes a brief statement of its aims, its growth, and its finances; a summary of the year's accomplishment among the two score organizations which now constitute its corporate membership; a description of work done by the men and women of its central staff; and an appraisal of these activities when viewed with reference to the changing status throughout the United States of the entire movement for increasing useful knowledge about men and work.

THIS is an age of scientific research. Industries which long since discovered the worth of scientific method in the realm of mechanical invention and engineering design, are now appreciating the value of a similarly rigorous scientific treatment of some of the human problems of factory, office and store.

The Personnel Research Federation exists for the advancement of such scientific knowledge about men and women in relation to their occupations. Work is half of life; and an approach to the problems of occupational adjustment, made in the spirit and with the methods of science, broadens the basis on which an industry or a people can erect an enduring structure of accomplishment and satisfaction.

In order to advance sound personnel research, it has been necessary to extend the knowledge of what has already been accomplished and of how it was done. It has also been desirable to interest a widening circle of able men and women in this field of investigation, and to make available to them the methods and tools which have proved useful. This the Personnel Research Federation has been doing, partly through the organization of conferences and public meetings, partly through publication of records of progress and reports of investigations in the Personnel Journal and elsewhere. The annual Autumn Conference held in New York November 17 and 18, 1927, brought together more than two hundred men and women to consider the status of research on four technical topics of current importance and to plan next steps in their investigation.[1] At this conference, and also at the conference in Boston, February 27–29, held jointly with the National Association

[1] *The Autumn Conference of the Personnel Research Federation*, Personnel Journal, February 1928, vol. 6, no. 5, pp. 379–390.

of Appointment Secretaries and similar societies, it was gratifying to note that, in comparison with earlier meetings, a smaller proportion of the time was taken in discussing what should be done and a larger proportion in reporting results of research. With each addition of proved fact or of perfected technique, the planning of further useful studies of human nature in relation to work becomes less difficult. The movement has gained momentum.

application of already established principles to their own problems of student adjustment. The roll of active corporate members is now 39, and of individuals 174, a total of 213.

FINANCES

The fiscal year ending September 30, 1928, closed with the treasury in a sound condition.

Resources, while very moderate for an undertaking of such social and economic importance, have shown a sub-

TABLE 1

Membership, 1921–1928

DATES	INDIVIDUAL MEMBERS		CORPORATE MEMBERS				TOTALS
	Subscribing	Sustaining and Donors	Business Firms	Educational Institutions	Government Agencies	Associations and Bureaus	
November 19, 1921			1	5		5	11
September 30, 1922	26		1	6	4	6	43
October 3, 1923	39		1	9	4	6	59
October 15, 1924	43	1	1	5	4	6	60
September 30, 1925	46	3	2	11	5	3	70
September 30, 1926	63	6	7	21	5	7	109
September 30, 1927	129	9	9	27	6	8	188
September 30, 1928	165	9	8	17	6	8	213

MEMBERSHIP

Table 1 shows a consistent growth in membership since the early beginnings in 1921. During the past year the enrollment of individual members has increased 26 per cent. The number of corporate members shows a decrease, due in part to the raising of minimum dues for educational institutions to $100, and to the fact that some members were less interested in the broad movement for advancement of personnel research as represented by the Federation than they were in the

stantial increase over previous years. In table 2, the first item—fees from sustaining corporate members—is particularly gratifying since this indicates that business firms as well as educators and philanthropists consider support of the Federation's work a good investment.

The report of the Treasurer, Francis H. Sisson, Esq., of the Guaranty Trust Company, shows a cash balance on September 30, 1928, of $1,544.45, and a book surplus of $3,205.90, after expenditures which totaled $43,473.37.

Of this sum, nearly one-half was

expended from funds provided for special studies, and the remainder from the General Fund.

Roughly one-fourth of this General Fund may properly be considered as paying the cost of planning and supervising the special studies, while three-fourths has been expended on the general activities of the Federation, providing for consultation about research matters with corporate members and with individuals; editing and publishing the PERSONNEL JOURNAL and Service Bulletins; making arrangements for meetings and conferences; coöperating with other agencies in inquiries and surveys of research activities; and through public addresses, articles in various publications, and much personal correspondence, furthering a recognition of the value of an approach to problems of human adjustment in industry "in the spirit and with the methods of science."

The Federation is entering on a new fiscal year with a minimum general budget similar to last year's, the funds for which are already in hand or pledged. Continuance of special studies by members of the staff is also assured.

ACCOMPLISHMENTS OF MEMBER ORGANIZATIONS

Fortunately many researches in progress or recently completed by our corporate members are already a matter of record in the PERSONNEL JOURNAL; for no brief statement can adequately describe the major activities of these various organizations. When our Secretary, Mr. Carey, summarized them compactly for the last Autumn Conference, his report extended to a length in itself exceeding the limits set for this statement. One member organization, the *Research Bureau for Retail Training* of

TABLE 2

Sources of funds

Sustaining Corporate Members	$7,000.00
Subscribing Corporate Members	300.00
Subscribing Educational Institutions	1,300.00
Other Subscribing Associations and Bureaus	750.00
Sustaining Individuals	11,500.00*
Subscribing Individuals	1,203.98
Other Contributions from Members	400.00
Total	$22,453.98
Royalties and Sale of Publications	$255.83
Gross Receipts for Special Studies	21,941.92
Total	$44,651.73†

* Includes $5,000 received before the beginning of the fiscal year, but applicable to this year.

† Does not include $1,620.93 received on pledges etc., applicable to the previous fiscal year.

the *University of Pittsburg*, used last year an entire volume to summarize its work to date.[2] Mention can here be made of only a few of the developments of the past twelve months, selected because they are representative of many.

The *U. S. Civil Service Commission* continues to keep in the forefront of the movement for improving techniques of employment. Its newly developed methods of conducting carefully standardized oral examinations as described at length in its forthcoming Annual Report should be studied by every employment interviewer. These methods were first developed for use in examining 2400 prohibition enforcement officers,—political appointees whose continuance in the government employ depended on their ability to meet the standards of the civil service.

Other Government agencies including the *U. S. Public Health Service*, the *Bureau of Mines*, the *Bureau of Labor Statistics*, the *Women's Bureau* and the *Federal Board for Vocational Education* have all helped the personnel movement by wide dissemination of information through their publications as well as by the carrying forward of investigations within their several fields.

Improvement of employment procedures and development and validation of tests have continued to receive the attention of investigators in the *Dennison Manufacturing Company*, the *Scovill Manufacturing Company*, the *Eastman Kodak Company* and the *Western Electric Company*. In several of the universities also, progress has been made in adapting these techniques of appraisal to practical needs and in understanding both their limitations and their real significance.

The greater likelihood of success in business careers of men with high scholarship records has been impressively brought to public attention by the *American Telephone and Telegraph Company*, after a study of the progress within the Bell System of more than 4000 graduates of engineering schools and colleges.

The *White Motor Company* has been demonstrating afresh the value of periodic physical examinations as a supplement to the initial medical examination and physical classification made at time of employment. Use of medical data in connection with safety work receives attention here and also in the *Boston Elevated Railway* whose achievements in accident reduction are described below.

The *Dennison Manufacturing Company* has been studying individual susceptibility to accidents and has brought about a marked reduction in time lost on account of accidents, mainly by building up correct habits and attitudes in the individual foreman and employee. This company has also found that excessive under-

[2] Those who may not yet have seen it, should obtain and read this illuminating account of what has been done in Pittsburgh through systematic research to improve the selection, training, and supervision of store personnel. The findings described in this volume entitled *Personnel Research in Department Stores* have been influential in improving personnel practice and the service rendered to the purchasing public, not only among stores where the studies have been made, but widely throughout the country as well.

weight and overweight are significantly related to irregularity of attendance.

The *Walworth Company* has continued its notable contribution to methods of stabilizing employment by developing more reliable data on which to forecast business conditions and probable demand, as a basis for budgeting production.

Hourly, daily and weekly variations in output and morale of factory employees engaged in simple repetitive work, as these variations are affected by such factors as length of rest-period, method and rate of wage payment, nutrition, and other variables, are being studied under controlled factory conditions by the *Western Electric Company*. This company has also stressed its health program during the past year and is measuring the results of its efforts in this direction.

Among the many activities of the *National Research Council* our members are particularly interested in the initiation of researches into psychological causes of highway accidents. Its stimulation and coördination of research in child development has yielded results of great importance to students of individual differences.

Engineering Foundation has brought to the attention of the engineering profession the problem of provision for the aged within its ranks.

The *American Federation of Labor* has been studying unemployment among union workers; wages in the automobile industry and in the steel industry; and labor's share in the greatly increased output and earnings of American factories.

Three major topics of research carried on by *Industrial Relations Counselors, Inc.*, have been: vacations for industrial workers, unemployment compensation, and pensions and retirement plans. Their special library of literature on industrial relations is growing steadily under the supervision of Miss L. H. Morley, who prepares the useful guide to current periodical literature published regularly in the PERSONNEL JOURNAL.

Spread of a better understanding of the principles and practice of mental hygiene in industry, as well as in school, college, and home, has been part of the program of the *National Committee for Mental Hygiene.*

The employment records of 26,000 boys and girls who applied to the *Vocational Service for Juniors* during the seven years ending October 1927 have been studied, in comparison with data regarding orders received from employers. The findings throw light on the work opportunities for minors in New York, and on the extent to which the amount and kind of education received by these boys and girls has influenced their chance and choice of employment.

Selection, training and salary ad-administration among the 5000 Y.M.C.A. secretaries of the United States is being thoroughly studied by the Personnel Division of the National Council of the *Young Men's Christian Association.* This vigorous young research department is making use of job analysis techniques, basic records, ratings, tests and similar means of getting the information needed in order to solve wisely the many personnel problems which confront the Y.M.C.A. as they do every large organization.

In the colleges and universities,

studies of labor relations and of the economic aspects of industrial personnel problems have bulked large. Happily, from our point of view, the psychological approach, as well as the economic, has been made in an increasing number of institutions, notably at the *Harvard Graduate School of Business* and the *Universities of Pennsylvania, Michigan, Chicago, Columbia, Pittsburgh,* and *Syracuse. Yale,* with its appointment of an experienced industrial psychologist to a chair of personnel administration in its engineering school, may be expected soon to give fresh impetus to this tendency to bring the resources of both psychological and economic science to bear in the study of industrial personnel problems. At *Bryn Mawr* some investigations have been made of the vocational careers of factory workers and also of the relation of workers' skills to their satisfactions on the job. In the *Harvard* program of research, the concepts and point of view of psychopathology and also, through cooperation with the Medical School, the experimental techniques of physiological chemistry, are being brought to bear on the study of dissatisfaction and unrest. At the *University of Pennsylvania,* in addition to several major economic and statistical investigations, there is nearing completion an intimate study of shop workmen whose individual fluctuations of working efficiency, organic equilibrium and emotional reaction have been closely followed over a period of many months. A coöperative study with a widely distributed group of department stores is also well under way, to determine the relative merits and defects of different methods of sales compensation and sales supervision, by an analysis of fluctuations in individual sales records as related to conditions which influence these fluctuations. A study at the *University of Michigan* of the interests, attitudes, and educational and occupational careers of 15,000 business and professional women is now well advanced. *Stanford* is steadily increasing the range of applicability of Dr. Strong's method of ascertaining vocational interests.

One is strongly tempted to extend at length this mention of samples of the kinds of research now in active progress within our membership, but we must be brief. The colleges and universities have quite generally continued or increased their research on student selection, classification, motivation, physical and mental health, and educational and vocational adjustment. Problems of vocational counselling during early youth as well as at the collegiate level have continued to be emphasized at the *Harvard Bureau of Vocational Guidance* and in an increasing number of other institutions. *Oberlin's* studies of the careers of its alumni in relation to their undergraduate records is being duplicated with illuminating results in several colleges. The measurement, at *Yale,* of the effects on student accomplishment of scholarship aid, participation in activities, and similar influences, is typical of several current investigations whose influence on educational policies is already obvious. Many colleges within our membership are coöperating with the American Council on Education to improve personnel practice through development of con-

tinuing personnel record forms, psychological tests, standardized content examinations, ratings, and vocational monographs.

ACTIVITIES OF STAFF

The central staff of the Personnel Research Federation has this year been able to do more than at any previous time.

Eight different universities, aiming toward the development of some sort of functioning organization for personnel research and administration, have sought our counsel as to program and selection of men to put the program into effect.

National organizations of social and religious bodies have brought similar problems. Several trade associations and large business firms have also from time to time availed themselves of the opportunity to consult our staff.

Through publication and public addresses, information has been spread as to the movement for thorough, factual, disinterested approaches to personnel problems.

Through personal conference and correspondence, we have helped advanced students and mature investigators to plan their studies, develop sound procedures, locate sources of data, secure necessary contacts, and find suitable avenues for publication of results. Several visitors and research students from remote lands—New Zealand, South Africa and China as well as Europe—have come here for such assistance.

Many callers have visited the Federation's office to inquire about opportunities to undertake personnel research because they are seeking employment, and hope through our suggestions to find a suitable opening. It seems that vocational counsel is wanted among personnel workers no less than in other occupational groups. These interviews have taken in the aggregate a good deal of Dr. Achilles' time; for visitors may not be cut off abruptly, even though they are not members of the Federation. One man needs a glimpse of the entire field and its varied opportunities. Another has to be tactfully reminded of some of the necessary qualifications of personality, health, specific training, or real familiarity with the occupations, which he unfortunately lacks. What a third requires is a little information about the modest pay which goes with inexperience in the business world; a fourth asks suggestions as to the best places for securing additional training in research; while a fifth needs encouragement to hold to a promising line of research in spite of handicaps and lack of facilities. For this fifth group we have sometimes wanted a fund from which grants in aid could be made from time to time. A few such sources exist but unfortunately an appeal often entails long delay and an investment of time and effort out of proportion to the grant finally awarded. Some of our members have been helped to obtain fellowships for research abroad. These personal services, as has been said, absorb a good deal of time, but they have not prevented the staff from carrying forward its major duties.

One of these duties is, to survey the field. We are charged with the responsibility of learning about what is going on in personnel research that we

may help in avoiding duplication of effort and in planning constructively. In particular it is our duty to point toward promising unoccupied areas of inquiry.

To this end the Director devoted six weeks last Autumn to travel and conferences in European centers of research and to participation in an international congress of techno-psychologists. The fruits of this short but very informing visit were presented in an article in the PERSONNEL JOURNAL[3] and in an address before the Fall Conference held in November, 1927.

The Director and his associates have also coöperated in three timely undertakings designed to appraise the more significant trends and to indicate the relative importance of next steps. One of these has been the preparation of a "Program for Employed Youth," designed to set up a platform on which educators, manufacturers, and legislators might agree as to the responsibilities of State, local community, employers and schools toward young persons at work, and as to the ways in which these responsibilities can jointly be met.

Another coöperative undertaking has been a survey of the field of research in industrial relations, begun during the previous year by the Advisory Committee on Industrial Relations Research of the Social Science Research Council under the chairmanship of Henry S. Dennison, Esq., and carried to completion last spring by the Committee with the full-time assistance of Dr. Herman Feldman. Our share in this undertaking consisted in helping to plan the survey, to classify information about research reported from the universities and colleges, and to contribute particularly to those parts of the report which deal with psychological aspects of research on such topics as fatigue and tedium in relation to repetitive work, incentives and satisfactions, personnel selection and vocational guidance, safety, and industrial mechanization in relation to personality of workers.

The Director also helped in the preparation of a report to the I.R.I., on the development of fundamental relationships within industry in the United States. In a chapter on *Industrial Psychology*,[4] he gives a cross-section of the main psychological problems which have been recognized in connection with the individual worker's relations to his work, his fellow-workers, his supervisor, the management, and the entire circle of contacts outside the factory. The social psychology of relations between groups,—of workers, management and public,—is considered. The ways are described in which these industrial relations have been influenced by psychology as science, as point-of-view, and as method; and mention is made of agencies for furthering industrial psychology in America.

This subject is central to the purposes for which the Personnel Research

[3] W. V. Bingham. *The Paris Congress of Techno-psychology.* Personnel Journal, December 1927, vol. 6, no. 4, pp. 295–301.

[4] W. V. Bingham. *Industrial Psychology.* Report of Cambridge Congress of the International Association for the Study and Improvement of Human Relations and Conditions in Industry. June 1928, pp. 44–68. Also Bulletin of the Taylor Society, October 1928, vol. 13, no. 5, pp. 187–198.

Federation was established, and the Director suggests that his discussion of it as already printed may be considered as an appendix if not an integral part of this Annual Report. It raises the question whether the time has not arrived for the Personnel Research Federation to bend its efforts definitely toward the goal of providing for America a real Institute of Industrial Psychology. Such an institute, adequately financed and properly manned, would not only study the special and perhaps local problems which particular industries wish to have examined. It would focus on fundamental questions, such as the mental effects, bad and good, of mass-production methods and minute division of labor, with the resulting tendencies toward repetitive work, fatigue or tedium, shorter hours, better wages, and highly specialized, non-transferable skills. In so doing it would provide both labor and management with a basis of fact most necessary in the present industrial age, and would ultimately affect the well-being of thousands of employees and make for general prosperity.

SPECIAL STUDIES

Susceptibility to Accidents. One of the vivid and practical applications of industrial psychology during the past year has been the reduction of accidents on the street-car and bus lines of Boston. Preliminary studies made during the previous year[5] had brought to notice the connection between personal characteristics of motormen and some of their accidents, and had shown that if the Railway's record for safety —already creditable—was to be still further bettered, it would probably be necessary to attack the problem of accident reduction individually, man by man, concentrating attention especially on those operators whose past records showed them to be in the "prone-to-accident" group. Acting in line with these suggestions, the Railway management, with our cooperation and with the full-time assistance of Dr. Slocombe of our staff, has substantially lowered the number of accidents on its surface and bus lines. These accidents, compared with the previous year, have been reduced 17 per cent.

Much remains to be done in determining the varied causes of individual susceptibility to accidents and the best means of diagnosing them; in learning which of these causes can be removed, corrected through re-training, or compensated for; and in working out the most practicable measures for putting this knowledge to effective use in the processes of hiring, training, medical attention, discipline, and day-by-day supervision of men.

The studies already under way will be continued during the present year. They are being brought into relationship with current investigations of motormen and chauffeurs, both in this country and abroad. Eventually such efforts will affect general practice, not only among street-railway companies, but also among fleets of busses, trucks, delivery wagons, and taxi-cabs. This information will also tend to modify

[5] C. S. Slocombe and W. V. Bingham. *Men Who Have Accidents: Individual Differences among Motormen and Bus Operators of the Boston Elevated Railway.* Personnel Journal, December 1927, vol. 6, no. 4, pp. 251–257.

the policy of the states in licensing automobile drivers, the practice of the courts in dealing with dangerous offenders against traffic regulations, and the whole public attitude toward "accident repeaters," the most serious menace to safety. The steadily rising tide of traffic accidents must somehow be stopped. Our studies are showing that this cannot be accomplished solely through general mass education or public appeal, but that due consideration must be given also to the facts of the enormous variability in human nature. What is one man's food is another man's poison—particularly within that fraction of the population who for one reason or another are more than ordinarily susceptible to accidents.

This investigation typifies the direct application of psychology to personnel problems of very obvious practical importance. It shows how traffic accidents can be substantially reduced by attacking the problem with the techniques and the point of view of sound personnel science. The next research to be mentioned—on the technique of the personal interview,—typifies another stratum of investigation: the study of method.

Study of Interviewing. The uses, technique and reliability of the personal interview have been made the subject of a special inquiry because the interview is used to secure primary data in a great many kinds of industrial investigations, and because as yet little has been done to learn the nature and extent of the limitations of this method, and the best means of increasing its dependability as a fact-finding tool.

This inquiry was initiated in 1927 by our Committee on Methods of Research in Industrial Relations. It has been carried forward this year under the immediate supervision of the Director who, thanks to a special appropriation by the Social Science Research Council, has had for nine months the valuable assistance of Dr. B. V. Moore, and for brief periods the cooperation of other investigators.

The comparative and experimental parts of this study have been carried out mainly in connection with the gathering of data in six current investigations:

1. A stud of working mothers and the effects of their employment on the welfare of their children.
2. A study of specialization of training and experience of workers in the metal trades.
3. An intensive study of satisfaction and dissatisfaction among workmen in a railway shop.
4. A study of workers' restriction of output.
5. A study of the attitudes of workers, supervisors and trade-union leaders toward an unemployment compensation agreement.
6. An inquiry into the attitudes of striking textile workers toward conservative and radical types of trade-union leadership.

The experiments in interviewing were undertaken after a summary had been made of present knowledge about the subject as recorded in the literature[6] and as ascertained in conferences with 60 experienced interviewers. Questions regarding which there exist marked differences of opin-

[6] B. V. Moore. *The Personal Interview. An Annotated Bibliography (206 References).* Reprint and Circular Series of the Personnel Research Federation. No. 13. New York. February, 1928.

ion and practice were formulated, concerning the more subtle as well as the obvious sources of error in interviewing and how these difficulties may best be avoided. Actual interviews were then planned and controlled so as to throw light on these questions. Some of the findings emphasize the importance of careful scrutiny of interview data as affected by the form of the questions used; by unconscious bias on the part of the questioner; and by his ability or inability—through frank, sincere and understandable explanation of his purpose—to establish in the interviewee a motive for giving full and accurate information similar to the interviewer's motive for asking it. In spite of the many pitfalls which have been disclosed, the results tend strongly to encourage the opinion that interviewers profit greatly through careful training; and that in many types of inquiry, through use of correct procedures, data *can* be secured by personal interview which are much more reliable than we first had been led to suppose.

Such a study as this one in research method does not, like the study of accident-susceptibility, yield immediate results measurable in thousands of dollars saved, or in reduction of personal injuries on the highway. Nevertheless, its completion next year should have a wide utility in improving the fullness and accuracy of information essential to many investigations of great social and economic significance.

To pause long enough to sharpen the tools of research is sometimes better than to labor diligently with dull or ill-adapted instruments.

Restriction of Output. The Personnel Research Federation was asked by the Social Science Research Council to sponsor a study of conscious restriction of output among workers uninfluenced by trade-unions. This investigation has been carried forward by Stanley B. Mathewson, in consultation with William B. Leiserson and others. Mr. Mathewson has not relied solely on the interview or on factory records. Indeed his most illuminating data have been gathered by first-hand observation while working as a laborer in various plants. His findings with reference to the extent of conscious restriction, the ways it is practiced, and the reasons for it, will soon be available. They throw fresh light on human nature in the working environment, and put a challenge to management with reference to current practices in rate-setting, time-study, lay-offs, and many other procedures which influence a worker's effort and his attitude toward output.

LOOKING FORWARD

Special studies and general services to members are both useful forms of staff activity. Intensive investigation of selected subjects keeps the staff in touch with actual conditions and problems of contemporary industry. This heightens the value of the central office as a source of information and suggestion regarding researches to be undertaken and ways of carrying them through. Close association of a group of research workers multiplies the likelihood that sound counsel will be available to all our members on a variety of technical research questions. For these reasons the Administrative Board and the members of the Personnel Research Federation may

well take steps to increase the number of special studies undertaken, and secure the financial resources needed in order to permit suitable additions to the staff. In this way, while particular problems of practical importance are being solved, the central office will become increasingly useful to the membership and to the entire movement for furthering useful knowledge about men and women in relation to their occupations.

Research in industrial psychology is peculiarly necessary. This area of inquiry is central. It is relatively uncultivated in comparison with the economic areas, as the surveys of the past year have shown.

A program of research in industrial psychology should face first the whole problem of personal relations within industry—the contacts of the worker with his job, with his fellow-workers, with his immediate supervisor, with the management, and with the people and conditions outside the plant as well, which also have a share in influencing his contentment and his production.

When this is done, one realizes how important the psychology of training and supervision on the job is, as well as the psychology of initial selection; and how large the emotional and personal aspects of industrial relations loom, in comparison with questions of the measurement of intelligence.

It is time for industrial psychology to rediscover the individual, the whole individual in relation to his work.

The unit of industrial psychology is the worker-in-his-work. It is composed of two interdependent variables —the nature of the particular job, and the make-up of the particular employee engaged upon it. A task which is tedious to one man is absorbingly interesting to another. A girl who fatigues in the office because the duties are too taxing for her abilities may come freshly through a day of strenuous manual work. These facts indicate the importance and timeliness of several closely related subjects of research:

1. A classification of jobs and occupations according to the nature of the demands made on the employee, such as:

Amount of strength required at moments of maximum strain, and at other times.
Continuity or periodicity of exertion; frequency and length of periods of strain and relaxation.
Nature and degree of manual expertness required.
Nature of attention demanded *i.e.*, continuous, close, concentrated attention; or slight, occasional attention to an otherwise automatic procedure; or attention distributed broadly over a total complex situation; or a combination of such mental attitudes.
Degree of intellectual ability required, and the continuity or sporadic character of this intellectual demand.
Degree of mechanical intelligence or of other special aptitudes needed.
Speed demanded. (In particular, does the worker determine the tempo, or is it imposed on him? If the latter, is the imposed tempo continuous, periodic or variable?)
Quality of product. To what extent, if at all, is this within the operative's control?
Necessary irregularities, interruptions and hazards, mechanical and personal.
Simplicity or complexity of the task and amount of variety or of repetition involved.
Social or solitary aspects of the work.
Etc.

2. A determination of the relative frequency and importance of these different kinds of work in modern industry, together with a study of current trends in these regards as affected by technical change, minute division of labor, mass production, and scientific management (including time-study and payment by results, and the use of specific instruction-cards).

3. A study of ways of ascertaining those individual differences between workers which the above analyses reveal as peculiarly significant in contemporary industry, and as probably determining in large measure individual susceptibility to (*a*) *fatigue* (*i.e.*, diminished energy resulting from continued work); (*b*) *tedium* (*i.e.*, loss of interest or absorption in the task); (*c*) *errors and accidents;* and (*d*) different financial and non-financial *incentives.*

Some such program is basic not only to clear the way for needed investigations of fatigue in relation to hours, to output, to safety, and to industrial unrest. It is fundamental for any general advance in industrial psychology, for it bears on practical questions of management practice in the arrangement of work, in the design of tools and machines, in supervision, in training and promotion, in hiring and placement, and in fixing just and satisfactory rates of compensation.

The carrying out of any such basic program of investigation in the science of work will not be easy. The best brains of psychologists, management engineers, physiologists and personnel executives will be required. For the careful formulation of the details of such a program and its initiation, the next steps would seem to be (*a*) conferences of the groups vitally interested; and (*b*) early concentration on the first of the topics proposed for intensive study, namely a fresh analysis from a psychological standpoint of the work involved in the chief sorts of occupations in modern industry.

While these fundamental researches are in the forefront of our planning, we should keep in mind also some proposals designed to meet immediate needs in the work of vocational adjustment. Four proposed studies will be mentioned here, illustrative of what can be done to improve the tools and techniques of vocational counselling. These studies would help especially the 2000 men and women now professionally engaged in guidance in schools and colleges, as well as the small army of placement interviewers not connected with educational systems, and employment managers who construe their responsibilities to include an effort to help each applicant toward a really satisfactory occupation. Four much-needed aids to counselling are:

1. A comprehensive and continuing inventory of relative demand and supply in the leading professions and occupations.

2. A manual of aids for interviewers, based on a fresh study of the possibilities and limitations of different procedures and techniques in interviewing used by employment managers and vocational counsellors.

3. A manual of tests of abilities and aptitudes, compiled after critical appraisal of published information about the reliability, validity and practical significance of hundreds of such tests. Many of these are of doubtful merit and should be excluded; but those which have demonstrated their usefulness for particular purposes should be brought together, with full data as to procedures, norms, and significance. Assem-

bly and appraisal of available tests of motor skills and of mechanical abilities are specially needed.

4. Model individual record forms for use of the counsellor in putting down the relevant facts about a person's educational and occupational accomplishments, his physique and health, his occupational interests, his general and special abilities as measured by standardized tests of proficiency and aptitude, his family circumstances and social and economic background, and his personal and social characteristics as revealed in personal interview and in ratings given by teachers, associates and employers. These forms, designed to aid the counsellor in getting as accurate a picture of the individual as possible, should be not merely a compilation of the best current practice, but should reflect also the results of independent appraisal of the reliability and significance of the items considered. Such forms are unnecessary where cumulative personnel data, as recommended by the American Council on Education, have been kept throughout the educational and occupational career of the interviewee. Unfortunately the full cumulative record is a relatively new device, and for many years will be available for use in conferring with only a tiny fraction of the multitude who daily seek help in making decisions. Meanwhile the aids described above are greatly needed.

These are some of the more obvious next steps in personnel research and practice. An obligation rests on the Personnel Research Federation and its member organizations, in coöperation with other interested agencies, to advance in these directions. The value of such a development to industry, to science, and to society may in some measure be estimated from the accomplishments during the year which is now closed.

Treasurer's Report

Balance Sheet, September 30, 1928

Assets

Cash*	$1,544.45
Furniture, Fixtures, Equipment, Books, etc. (less Reserve for Depreciation $684.85)	2,119.02
Total	$3,663.47

Liabilities

Uncompleted Contracts	$457.57
Surplus	3,205.90
Total	$3,663.47

Cash Receipts and Disbursements

For the Year Ended September 30, 1928

Balance on hand, October 1, 1927		$3,745.16
Receipts		
Accounts and Pledge Receivable September 30, 1928	$1,620.93	
Membership Dues and Contributions	17,453.98	
Royalties and Sales of Publications	255.83	
Gross Income from Research Services	21,941.92	
Total Receipts		41,272.66
Total		$45,017.82

Disbursements

Salaries:		
Staff—General	$11,890.08	
Staff—Special Research Services	10,931.57	
Other than Regular Staff	4,090.44	
Total		$26,912.09
Clerical—General	2,523.00	
Clerical—Special Research Services	2,932.94	
Total		5,455.94
Total Salaries		$32,368.03
Traveling Expenses—General	1,312.52	
Traveling Expenses—Special Research Services	2,450.01	
Total Travel		3,762.53
Rent	$2,575.00	
Electricity	83.80	
Office Supplies and Maintenance	420.64	
Postage	220.44	
Telephone and Telegraph	338.16	
Books, and Magazine Subscriptions other than Exchange	91.15	
Printing—Stationery	187.25	
Printing—Circulars, Bulletins, and Reprints	300.33	
Mimeographing	5.55	
PERSONNEL JOURNAL Subscriptions, and subsidy to Publisher	2,019.34	
Expenses of Conferences and Meetings—Net	67.51	
Furniture, Fixtures and Equipment	218.00	
Accounts Payable (on Office Equipment)	224.00	
Research Service Expenses	216.70	
Miscellaneous Expenses (Audit of Accounts, Moving of Office, etc.)	374.94	
Total		7,342.81
Total Disbursements		$43,473.37
Balance on Hand, September 30, 1928.*		$1,544.45

F. H. SISSON,
Treasurer.

* Including deposits and withdrawals to October 5, 1928, applicable to the fiscal year ended September 30, 1928.

CERTIFICATE

We have made a general audit of the accounts of the Personnel Research Federation, Inc. for the year ended September 30, 1928, and

We Hereby Certify that in our opinon the foregoing balance sheet and summary of cash receipts and disbursements are correct.

(*Signed*) HASKINS AND SELLS.

New York,
October 19, 1928.

Book Reviews

CROSSROADS IN THE MIND OF MAN
A STUDY OF DIFFERENTIAL MENTAL ABILITIES

By Truman L. Kelley. Stanford University, Calif.: Stanford University Press, 1928. Pp. 238

REVIEWED BY HENRY E. GARRETT

Probably there is no word in psychological literature which has been used to describe such a variety of things (except perhaps general intelligence or personality) as has the word "trait." Straightforward measures of physical status like height, as well as complex behavior activities such as "honesty" or "courage" are all characterized in a general way by this psychological maid-of-all-work. To the objective psychologist a trait (if defined at all) is usually taken to be an integrated system of habits built up from simple conditioned responses; while to many other psychologists (those of the Gestalt school especially) a trait probably connotes a general or consistent way of adjustment which, whatever its origin, has an existence in its own right.

In the present study Dr. Kelley has attempted to steer clear of ambiguities by adopting a strictly objective definition of "trait." A trait, we are told, "to be given serious consideration . . . . must be such as to reveal itself as a measurable difference in conduct, that is, as a measurable difference in the same individual at different times, or in different individuals at the same time" (page 3). More specifically, a trait may best be taken as represented by a score on "a designated test which is definite, administered in a standard manner and which yields an objective score" (page 3). Kelley is not so much interested in defining traits as in locating those much less easily identified "unit-factors" which are independent of each other and which presumably lie at the basis of certain allied groups of behavior activities. The object of the book is declared to be the location of such independent factors and a study of their relationships and relative "sizes."

Chapters I and II are concerned for the most part with a review and evaluation of the work of Spearman and his students. Spearman's use of a general PE formula (the proof of which is as yet unpublished) to characterize the distribution of tetrad-differences which might be expected to arise by chance is criticized, as is also his assumption of a normal distribution. Kelley argues that "g" (Spearman's "general mental energy") can very

probably be reduced to the joint operation of maturity, sex, race, and differences in nurture. Spearman's "perseveration," "oscillation," etc., are accepted tentatively as general elements in mental activity, though Kelley puts a question mark behind them until they are more objectively defined and their status more reliably established. Other smaller and less wide-spread factors constituting the common bond in groups of related activities (group factors in Spearman's terminology) are accepted as probably real. These are memory, a number factor, a verbal factor, a manipulation of special relations factor, and possibly a speed factor. The establishment of these "mental units" is in part the result of Spearman's and in part the result of Kelley's work.

Chapter III, *Theory and Statistical Technique*, is, as its name implies, the development of a statistical methodology for the location of independent factors. Sixteen basic propositions are stated and proved. These propositions present criteria whereby the correlations in a table may be explained in terms of one or more general and specific factors. To illustrate, Proposition 4 reads: "Three variables may be thought of as due to a single general factor plus two specific factors only in case the product of two of the three inter-correlations is equal to the third." Spearman's tetrad-difference criterion is stated in Proposition 10 as follows: "Four variables may be thought of as due to one general factor plus four specific factors when $r_{12}\, r_{34} = r_{13}\, r_{24} = r_{14}\, r_{23}$. In Proposition 15, Kelley gives the criterion upon the satisfaction of which five variables may be explained in terms of two general factors. This is entirely new, and is called a "pentad criterion." The chapter concludes with an "iteration" method for determining the "weights" (*i.e.*, Standard Deviations) of the factors which have been located. The reviewer is of the opinion that this method might have been made much clearer if it had been developed at greater length.

The next four chapters are concerned with the application of the propositions developed in Chapter III upon three populations,—a 7th grade, a 3rd grade, and a kindergarten group. Using an ingeniously devised set of tests, Kelley proceeds to identify the following factors:—a general factor which is held to be largely maturity; a verbal facility factor; a number facility factor; a memory factor; a facility with spacial concepts factor; and a speed factor. On the basis of the intercorrelations, weights can be assigned to the various factors. These vary, of course, with the test and with the group.

The last three chapters of this study are taken up with the reliability and scoring of the tests employed (these are reproduced); with a discussion of other studies which have shown mental factors; and with a final discussion on "future outcomes" which contains among other things an extremely interesting analysis of racial differences in intelligence tests (of Japanese and Americans) in terms of the mental factors listed above. Kelley believes that scientific educational as well as vocational guidance depends upon a knowledge of the size and strength of the traits (factors) which the given

individual possesses. While this is pretty generally recognized, unfortunately the "traits" required are often vaguely defined, or not defined at all.

In concluding, the reviewer should add that in no recent book (except probably Thorndike's *The Measurement of Intelligence*) has he found it so absolutely essential to read word by word as in the present little volume. Parts of the book are very hard to follow, and procedures are not always explained or justified, as for instance the transformations on page 70. As is almost inevitable, too, in a work of this kind typographical and other errors have crept in. On page 50 in Proposition 10 the "square of the products" evidently should read "product of the squares." Confusions in subscripts occur on pages 64 and 74. But these things are minor matters when compared with the real achievement of the study as a whole. The reviewer makes no claim to prophetic gifts, but he misses his guess if this study is not destined to be accepted as an extremely significant contribution to quantitative method in differential psychology. He commends the whole study, and especially Chapter III, to those psychologists who are overcome by feelings of inferiority when confronted with the work of their more "exact" scientific brothers; and also to those who are yet somewhat doubtful whether psychology is a science after all.

FOREMANSHIP TRAINING

By Hugo Diemer. New York: McGraw-Hill Book Company, 1927. Pp. 230

AND

FOREMANSHIP AND SUPERVISION

By Frank Cushman. New York: John Wiley and Sons, Inc., 1927. Pp. 234

REVIEWED BY O. R. JOHNSON

Not so many years ago the idea that a foreman needed to know anything except the technical side of his job was considered quite advanced—indeed, almost ridiculous. Today foreman training is quite generally recognized as an essential step in the operation of the modern industrial plant.

Not every general manager, it is true, is taking steps to train his foremen; but, if not, he is at least conscious of the fact that he ought to do something; and if he reads these two books —first Diemer's and then Cushman's —he will not only be convinced to the point of action, but he will have a pretty good idea of how to go about the task.

Foremanship Training and *Foremanship and Supervision* supplement each other almost perfectly. The first discusses foreman training from the viewpoint of the management, and

the other tells clearly and in detail how to train foremen by the conference method. The weakness of both, if we must be critical, is that they deal almost exclusively with the conference procedure.

Foremanship Training opens with a lucid, convincing exposition of the need for foremanship training. It proceeds with a description of the foreman's job, which is followed by one of the most interesting chapters in the book, a picture of the foreman as he sees himself. The cross-section of self-ratings presented in this chapter significantly places the foreman's knowledge of industrial relations at the lowest point in the entire rating. Following in ascending order the foreman has rated his knowledge of business fundamentals, planning production, and handling men. The book proceeds logically with meaty, interesting discussions of the conference procedure, the group leader, typical first and second year programs, and the relation of personnel policies and managerial programs to the foremen.

Except for the abrupt change in style, the reader might continue now with Cushman's book without ever noticing any gap. *Foremanship and Supervision* presents in condensed form the many years of experience of a man who has devoted himself to industrial training with marked success.

Part I is a general discussion of types of training plans with almost immediate concentration upon a detailed analysis of the conference procedure. Part II deals with the application of the conference procedure to the improvement of foremanship. Part III takes up the application of the conference procedure to work with vocational teachers and supervisors.

Both these books should be in the hands of every personnel worker and every other executive who has (or should have) any contact with the problem of training.

TESTS AND MEASUREMENTS

By Henry Lester Smith, and Wendell W. Wright New York: Silver, Burdett and Company, 1928. Pp. 552

REVIEWED BY ARTHUR HOWARD SUTHERLAND

This book is intended as a text for use in college or normal school classes. It describes, and to some degree judges, as to the merits of a variety of tests in most of the elementary and high school subjects. There is an excellent bibliography at the close of each chapter.

An unusual feature of this book as compared with many of the books upon this subject, is the attempt to direct attention to the difference of teacher need from the requirements of the administrator. Each chapter begins with a statement of the aims of the subject of instruction. The tests which follow this statement are seen to cover only a portion of the teachers'

aims. The efforts to interpret the test results fall considerably short of satisfactory adequacy. The teacher has a need for a kind of interpretation which authors of tests do not provide. This book makes a step ahead in offering the beginnings of such interpretations as the teacher will need in dealing with her instructional problems.

The personnel director will find it advantageous to have at hand an excellent summary of the best tests of school subjects.

HOW TO SUCCEED IN COLLEGE

By William F. Book. Baltimore: Warwick and York, 1927. Pp. 192

REVIEWED BY HERBERT E. HAWKES

This little volume is the report of the result of a questionnaire sent out to over three thousand students in the University of Indiana. The object of the inquiry can be summarized under several headings. The students of the University were requested to indicate (1) how they spent their total available time; (2) the number that regularly attended church and how often they attended each week; (3) how much of their total time was profitably spent and how much was wasted or lost; (4) the amount of time each student spent in study; (5) the time they devoted each day and week to recitations and laboratory work; (6) the number of students who were doing outside work and the time per week they devoted to it; (7) the time per week spent in planned exercise and play, and the forms of recreation they took; (8) the time devoted each day and week to sleep, and the habits of sleep that were being acquired; (9) the amount of time they devoted to their meals; (10) the extent to which they were compelled to economize on their meals, and whether they made it a practice to rest 15 or 30 minutes after each meal or went directly to their work; (11) the kind of attention they were giving to the selection of their food; (12) each student's working load; (13) their intelligence rating; (14) their academic success; and lastly (15) their ability to read.

It is to be assumed that the advantages and the defects of the questionnaire method of obtaining information are involved in the present study. It is, however, a very stimulating little volume, particularly for college administrators. So far as the statistical results are significant they back up in almost every case what we all believe to be true. For example, it turns out that the boys who work for their support are on the whole more serious students than those who do not work. The boys who come from families of lower economic standing are on the whole of lower mentality than those who come from families higher up in the social scale. Many students waste a good deal of time sitting around fraternity houses and doing nothing at all. All of these

facts are presented in terms of percentiles carried to three significant figures. It goes without saying that statistics never did any good except to clarify situations. After one has gotten all of the figures the question remains what it is possible to do about the situation that is uncovered. Doctor Book brings to light a good many causes for serious criticism of his university. Many of these difficulties are common to most colleges at the present time. His methods of meeting the situation are naturally not as carefully worked out as the statistical background, but the book is a most stimulating little volume for college administrators and teachers, all of whom ought to realize more clearly than they do the shortcomings of their efforts.

INDUSTRIAL LUNCH ROOMS

By National Industrial Conference Board, Inc. New York: Author, 247 Park Avenue, 1928. Pp. 80

Reviewed by Arthur Howard Sutherland

This study surveys the common practice regarding lunch rooms in factories. There is first the need to determine whether a lunch room should be established. An account is given of the various types of lunch rooms, the varying equipment, types of management, methods of operation, and accounting of the proceeds. Appendix II gives a manual of operation, containing excellent advices regarding amount of stores to carry, requisition forms, and the handling of finances.

BUSINESS CYCLES; THE PROBLEM AND ITS SETTING

By Wesley C. Mitchell. New York: National Bureau of Economical Research, 1927. Pp. 489

Reviewed by Merrill Lott

Wesley C. Mitchell, Director of Research for the National Bureau of Economic Research has prepared this book on *business cycles* as a foundation for further study now underway, the results of which will be published in a future volume. He has confined the present work to a detailed development of the *Problem and its Setting*. In a thorough manner, Mr. Mitchell has discussed the subject under the following heads:

1. *The processes involved in business cycles,* which deals with the discovery of the problem and an exhaustive review of current theories.

2. *Economic organization of business cycles,* which treats with the historical connection between business cycles and the use of money, modern organ-

izations for making money, system of prices, monetary mechanisms.

3. Contribution of statistics, in which, data in the form of time series are analyzed, in their original or raw state, corrected for secular trends, seasonal variations and irregular fluctuations. Business indexes are also investigated in detail.

4. Contribution of business annals, which traces the historical development of business cycles.

The discussions under each of these groups give very clear pictures of the progress of thought along each line. They represent a vast amount of thought and study which is very impressive and of utmost value to the student who is to undertake further work in the study of business cycles.

In spite of the accomplishments achieved thus far, the reader is constantly reminded of the many knotty problems which must be solved before the phenomena of *business cycles* can be understood.

Mr. Mitchell leaves the definition of *business cycles* until toward the end of the book where he states, "Business Cycles are a species of fluctuations in the economic activities of organized communities. The adjective *Business* restricts the concept to fluctuations in activities which are systematically conducted on a commercial basis. The noun *Cycles* bars out fluctuations which do not recur with a measure of regularity."

Further he says that business cycles "are not one phenomenon but a congeries of interrelated phenomena."

Each business cycle has four phases, depression, revival, prosperity, and recession.

Mr. Mitchell states that the best measure of the time between cycles is from depression to depression. His analysis shows that the phases of revival and recession are brief in comparison with the phases of prosperity and depression. Prosperity lasts longer than depression. Cycles vary in intensity and length, but most of the cases examined fall within a three to six year range.

It is shown that business cycles are highly sensitive phenomena influenced by a host of factors not of business origin. "Effort is being made to learn about their characteristics causes and consequences." Their study will "apply the mathematical technique of statisticians guided by rational hypothesis and recourse to historical records."

Mr. Mitchell offers the statement just quoted after having shown how the work of the pioneers of the subject along the different avenues of approach may all give helpful contributions to the future work.

In presenting the work of his predecessors and contemporaries Mr. Mitchell has endeavored to preserve carefully all that has permanent value. He traces the history of the theories from early dates. Such theories are grouped into three classifications, as follows:

1. Theories based upon physical processes, such as cycles of solar radiation, conjunction with the planet Venus, weather conditions and their effects upon health.

2. Theories based upon emotional processes which are further described as "optimistic errors and pessimistic errors." This group also includes the

theories based upon fluctuations in the birth and death rate.

3. Theories based upon institutional processes where cycles arise from (*a*) technical exigencies of money making, (*b*) lack of equilibrium in the processes of disbursing and spending incomes and of producing values, (*c*) lack of equilibrium in the process of producing and consuming goods in general, (*d*) lack of equilibrium in the process of consuming, saving and investing capital in new construction and (*e*) processes of banking.

Mr. Mitchell shows how the study of business cycles revolves around the making and spending of money and states that it is not until the uses of money have reached an advanced stage in a community that its economic vicissitudes take on the character of business cycles.

Business must make profit to exist. "Profits are made by a connected series of purchases and sales of goods," —and this involves the matters of prices. A consideration of "prices" reveals the complexities which attend investigations of business cycles, for, as pointed out, there is not one retail price for a given commodity but an array of prices exists within a given community as well as in different parts of the country and the world. However, there is a fairly definite range in price for the same article handled by different retail shops.

A similar diversity applies to wholesale prices but there are wide differences in margin between selling prices and costs in the various steps in a series of transaction for a given commodity. An advance in price of one commodity diverts demand to another.

The system of prices is very aptly described as a "highly complex system of many parts connected with one another in divers ways, a system infinitely flexible in details yet with a fairly stable equilibrium among its parts, a system like a living organism in its capacity to repair the serious disorders into which it recurrently falls."

Mr. Mitchell states that "statistical analysis affords the surest means of determining the relations among and the relative importance of the numerous factors stressed by business cycle theories. In turn rational hypotheses are the best guides of statistical research and theoretical significance is the ultimate test of statistical results."

In spite of the fact that the application of statistics to the study of business cycles is comparatively new, some 182 pages are devoted to this phase of the work.

Statistical investigations have been hampered due to the inadequacy of recorded data, but with the economic evolution, more records are becoming available. With the development of Trade Unions came records of unemployment; Large Industries reported payroll figures; Department and Chain Stores gave data on retail sales; Standardizations of technical processes, accounting procedures and publicity of corporate accounts all added to the valuable sources for series of data which could be statistically analyzed.

Data for a given series is first plotted in its raw or original state. In this form the presence and characteristics of business cycles may be obscured by trends, covering some period of time (secular trends); by seasonal variations; and irregular fluctuations.

Various empirical means have been devised to eliminate the secular trends and seasonal variations, but the interpretations reflect the personal equation of the investigator.

Secular trends show the effect of causes which have influenced an economic process, but the causes are still undetermined.

Seasonal variations are of two types, —one due to climates, the other due to conventions such as the present calendar with its uneven days and holidays per month.

Each series of data must be studied by itself and then in conjunction with the other series, for it is a combination of these separate yet interrelated influences that make the business cycle. Combinations of such time series into Business Indexes have been and are being carried on by various investigators and in this form have been used for forecasting business conditions

After having acquainted the reader with the Business Indexes, Mr. Mitchell shows how the annual summaries of business conditions (business annals) agree fairly closely with the indications of the Business Indexes. This agreement is developed after an exhaustive analysis of the various existing Business Annals of the more important countries compiled by the different investigators. A study of the charts given to illustrate the text is very interesting and instructive.

The closing chapter of the book summarizes the various problems developed during the discussion of business cycles and outlines the lines of future investigations. Modern business is becoming more and more dependent for its existence through planning its operations on a basis of facts and a knowledge of the interrelation of factors which affect the business cycle.

Mr. Mitchell has done a remarkable service to business and industry through the preparation and presentation of this book on business cycles.

ADULT LEARNING

By Edward L. Thorndike. New York: Macmillan Company, 1928. Pp. 323

Reviewed by Ordway Tead

This book is most important not alone for the technical educator, but for all who are concerned with the problem of adapting educational material to adult uses. A thorough and careful review of the experiments and discussions of the subject of adult learning lead to the conclusion that "age in itself is a minor factor in either success or failure. Capacity, interest, energy and time are the essentials." The last chapter contains the information and the conclusions which the industrial reader will be especially concerned to secure. And the volume can profitably be studied by everyone interested in industrial education and training. Indeed, this one chapter of eighteen pages is worth the price of the volume in the encouragement it gives to all those concerned with adult education, whether in industry or elsewhere. The book has the added merit of being not only scholarly but exceedingly optimistic in its implications.

New Books

ECONOMICS

CURTIS, RAY EMERSON. *Economics, Principles and Interpretations.* Chicago: A. W. Shaw Co., 1928. 879 p. $4.50.

DONALDSON, JOHN. *International Economic Relations; a Treatise on World Economy and World Politics.* New York: Longmans, Green & Co., 1928. 704 p. $3.20.

KEEZER, DEXTER MERRIAM, AND OTHERS. *Problem Economics.* New York: Harper & Bros., 1928. 727 p. $4.00.

SEÉ, HENRI. *Economic Interpretation of History.* Translated by M. M. Knight. New York: Adelphi Co., 1928. $3.00.

SEÉ, HENRI. *Modern Capitalism; Its Origin and Evolution.* Translated by H. B. Vanderblue and Georges Doriot. New York: Adelphi Co., 1928. $3.50.

WEBER, MAX. *General Economics History.* Translated by Frank Knight. New York: Adelphi Co., 1928. 400 p. $3.50.

EDUCATION

BELL, BERNARD IDDINGS. *Common Sense in Education.* New York: Wm. Morrow & Co., 1928. 329 p. $2.50.

COUNTS, GEORGE SYLVESTER. *School and Society in Chicago.* New York: Harcourt, Brace & Co., 1928. 375 p. $2.50.

CRAWFORD, CLAUDE C. *The Technique of Research in Education.* Los Angeles, Calif.: The University of Southern California, 1928. 320 p.

FONTAINE, E. CLARKE. *Ways to Better Teaching in the Secondary School.* Boston: Ginn & Co., 1928. 282 p. $1.60.

GRIZZELL, EMIT DUNCAN. *Education: Principles and Practices; an Introductory Course.* New York: Macmillan Co., 1928. 444 p. $2.40.

JACOBS, CHARLES LOUIS. *The Relation of the Teacher's Education to Her Effectiveness.* New York: Teachers College, Columbia University, 1928. 97 p. Apply.

INDUSTRY

American Engineering Council. *Safety and and Production.* New York: Harper & Brothers, 1928. 414 p. $5.00.

FINE, NATHAN. *Labor and Farmer Parties in the United States, 1828–1928.* New York: Rand School of Social Science, 1928. 445 p. $3.00.

GREEN, STANLEY J. *Industrial Catalysis.* New York: Macmillan Co., 1928. 518 p. $14.00.

LANSBURGH, RICHARD H. *Industrial Management;* 2nd revised edition. New York: John Wiley & Sons, 1928. 509 p. $4.50.

MULLER, HELEN M., comp. *Installment Buying.* New York: H. W. Wilson Co., 1928. 120 p. 90¢.

MURDOCK, JOSEPH, comp. *Food for Thought.* This booklet is compiled with a desire to develop the efficiency of salespeople. Clinton, Ill.: Compiler. 24 p. Apply.

National Industrial Conference Board. *Industrial Lunch Rooms.* New York: National Industrial Conference Board, 1928. 80 p. $1.00.

National Industrial Conference Board. *The Work of the International Labor Organization.* New York: National Industrial Conference Board, 1928. 206 p. $2.50.

National Safety Council. *Accident Facts, 1928.* Chicago: National Safety Council, 1928. 45 p. Apply.

PRICE, MORGAN PHILLIPS. *The Economic Problems of Europe, Pre-war and After.* New York: Macmillan Co., 1928. 218 p. $3.50.

RICHARDSON, J. H. *The Minimum Wage.* New York: Adelphi Co., 1928. 256 p. $2.50.

SHIELDS, B. F. *The Evolution of Industrial Organization.* New York: Isaac Pitman & Sons, 1928. 308 p. $3.00.

SKILLMAN, G. B., ed. *Harvard Business Reports; Volume 5.* Chicago: A. W. Shaw Co., 1928. 622 p. $7.50.

TAYLOR, ALBION GUILFORD. *Labor Policies of the National Association of Manufacturers.* Urbana, Ill.: University of Illinois, 1928. 184 p. $1.50.

U. S. Bureau of Labor Statistics. *American Trade Unions and the Problem of Unemployment.* Washington, D. C.: Gov-

ernment Printing Office; Superintendent of Documents, 1928. 23 p. Apply.

U. S. Department of Labor, Bureau of Labor Statistics. *Union Scales of Wages and Hours of Labor, May 12, 1927.* Washington, D. C.: Government Printing Office, Superintendent of Documents, 1928. 233 p. 35¢.

U. S. Federal Board for Vocational Education. *Bibliography on Foreman Training; a Selected and Annotated List of References on Recent Books, Pamphlets, and Magazine Articles.* Washington, D. C.: Government Printing Office; Superintendent of Documents, 1928. 34 p. 10¢.

U. S. Federal Board for Vocational Education. *Progress in Foremen Training; a Study of the Results of Eleven Leader-training Conferences Conducted by the Federal Board for Vocational Education during the Years 1926 and 1927.* Washington, D. C.: Government Printing Office; Superintendent of Documents, 1928. 34 p. 10¢.

WATKINS, GORDON S. *Labor Management.* Chicago: A. W. Shaw Co., 1928. 726 p. $5.00.

WHITNEY, ALICE LADD. *Health and Recreation Activities in Industrial Establishments, 1926.* Washington, D. C.: Government Printing Office; Superintendent of Documents, 1928. 98 p. 25¢.

MENTAL HYGIENE

FREUD, ANNA. *Introduction to the Technic of Child Analysis.* Translated by L. Pierce Clark. Washington, D. C.: Nervous & Mental Disease Publishing Co., 1928. 62 p. $1.50.

GRIMBERG, L. *Emotion and Delinquency; a Clinical Study of Five Hundred Criminals in the Making.* New York: Brentano's, 1928. 156 p. $3.00.

MACCULLUM, WILLIAM G. *A Text-book of Pathology;* 4th edition revised. Philadelphia: W. B. Saunders Co., 1928. 1177 p. $10.

REYNOLDS, MARTHA MAY. *Negativism of Pre-school Children; an Observational and Experimental Study.* New York: Teachers College, Columbia University, 1928. 134 p. $1.50.

SAYLES, MARY BUELL. *The Problem Child at Home; a Study in Parent-Child Relationships.* New York: Commonwealth Fund, Division of Publications, 1928. 352 p. $1.50.

STRECKER, EDWARD ADAM, and EBAUGH, FRANKLIN G. *Practical Clinical Psychiatry for Students and Practitioners;* 2nd edition revised. Philadelphia: P. Blakiston Sons & Co., 1928. 476 p. $4.00.

WILSON, FRANK THOMPSON. *Learning of Bright and Dull Children.* New York: Teachers College, Columbia University, 1928. 56 p. Apply.

PERSONNEL

HO, CHING-JU. *Personnel Studies of Scientists in the United States.* New York: Teachers College, Columbia University, 1928. 64 p. Apply.

Partial Bibliography for Deans of Women and Girls. New York: Bureau of Publications, Teachers College, Columbia University, 1928. 25¢.

Personnel Study of the Deans of Women in Teachers Colleges and Normal Schools. New York: Bureau of Publications, Teachers College, Columbia University, 1928. $1.50.

PIERCE, ANNA ELOISE. *Deans and Advisers of Women and Girls.* New York: Professional & Technical Press, 1928. 652 p. $4.00.

PSYCHOLOGY

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News Notes

PERSONNEL RESEARCH FEDERATION

ACTIVITIES OF MEMBER ORGANIZATIONS

Princeton University
Industrial Pension Plans

The Industrial Relations Section, Princeton University, has recently issued in mimeographed form a memorandum entitled *Rules and Financial Provisions of Industrial Pension Plans*. The introductory paragraphs describe the nature and purpose of the memorandum in the following terms:

"The following memorandum has been prepared by the Industrial Relations Section at Princeton University in response to many requests for information concerning industrial pension plans. It is a summary of existing material on certain phases of the pension problem rather than an original contribution to the subject. It is the aim of the memorandum to summarize the existing studies of the subject as concisely as possible for the benefit of those concerned with the problem of industrial pensions who have but little time to give to research.

"The two phases of the problem on which interest centers at this time are the actual provisions of pension plans, such as the rate of pension allowed and the length of service required, and the method of financing pension plans. The following memorandum deals exclusively with these two phases of the subject and leaves aside the question of the economic or business justification of pensions maintained by employers for their employees, as well as the question of state or national pensions. It offers an analysis of the outstanding provisions of representative industrial pension plans based on various studies of the subject and a summary of the best judgment available on methods of financing such plans. An analysis of the terms of six typical pension plans chosen from the collection in the library of the Industrial Relations Section is appended.

"The brief bibliography included contains only a few of the studies on the subject, since it is felt that a short selected list of references would prove most helpful. Both this and other material and copies of the pension plans of a large number of companies are available for study at the Industrial Relations Section."

For further information address J. Douglas Brown, *Director*, Industrial Relations Section, Princeton University, Princeton, N. J.

Vocational Service for Juniors
Junior Employment

The utter inadequacy of existing placement facilities for juniors both in and out of the public school system, has long engaged the attention of the Vocational Service for Juniors. Recently Dr. Mary H. S. Hayes and other members of this organization have been coöperating with the New York State Department of Labor in planning next steps to meet this situation.

Regarding this need for far-sighted planning and adequate financial support of junior placement services, the *New York Times* has spoken emphatically in its editorial columns: "While the problem of getting work for men and women without charging them unjustly for the service has been engaging the attention of the Industrial Survey Commission, other agencies have been preparing reports to be submitted early next month on getting work for boys and girls. English students of unemployment have recently been struggling with the same question. It is much more serious there than here, for most of the boys and

girls looking for work in England need the small wages they may earn for their own support, while many in this country are merely trying to escape from schools or homes in which they are badly adjusted.

"What has been done during the last seven years by the Vocational Service for Juniors in New York provides a basis for future planning. The present background of experience has already convinced directors of public employment agencies that adults and children should be handled separately. Offices for juniors, with their own staffs, have been established by this State's Department of Labor in nine continuation schools. This is a step in the right direction, but mere segregation is not enough.

"The entire business of dealing with youngsters looking for their first jobs should be managed along lines unsuitable for handling adults. The personnel of the junior bureaus should be carefully chosen, for the director is regarded by a young applicant as some one standing between a teacher and a parent, and probably more influential at the moment than either. He must have the tact and insight to find out why a boy wants to leave school and go to work. Perhaps his parents can well afford to send him to high school, and temporary difficulties may be smoothed out so that education may be continued. Arrangements for securing financial aid in cases of urgent need should be possible to the capable director. He should not only get the usual information about the training, age and experience of the applicant, but should find out if there are special aptitudes or ambitions which ought to be encouraged. Plans for further training or general education should go hand in hand with the immediate purpose of getting work.

"While a logical development of the vocation school system of New York would lead to placement work for departing pupils, the time for that is a long way off. Meantime, the Junior Employment Service of the Department of Labor has made a beginning. It should grow rapidly in order to take care of the boys and girls who need to be guided into work suitable and interesting to them and away from the hazards of casual engagements. The sympathetic oversight of child workers by the State calls for a new provision in the next budget of the Department of Labor. It has been estimated by the experts of the Vocational Service for Juniors at about $150,000 a year. This would allow somewhat higher salaries than the present low scale ($1,200–$3,000) for the staff, and a higher standard of qualifications. In improving present employment conditions and preventing future unemployment crises it would be money well spent."

Oberlin College
Personnel Activities

Professor L. D. Hartson of the Department of Psychology, Oberlin College, outlines the main activities of the year in the personnel field as follows.

Personnel Research Projects. In addition to studies of *The Vocations College Graduates Enter* (VOCATIONAL GUIDANCE MAGAZINE, April 1928), *Vocational Stability of Oberlin Alumni* (PERSONNEL JOURNAL, October 1928), and *Intelligence and Scholarship of Occupational Groups* (PERSONNEL JOURNAL, December 1928), attention has been given to the following subjects:

(1) *A Search for an Objective Basis for Sectioning Courses in English Composition and the Modern Languages.* This has been a five-year research which is virtually ready for publication.

(2) *Reduction of Data from a Vocational Interest Inquiry.* In collaboration with W. H. Brentlinger of the Department of Psychology of Oberlin College, study is being made of returns from two graduating classes of Oberlin students, Law School freshmen, and Y. M. C. A. secretaries. (A copy of the Oberlin Vocational Interest Inquiry is on file in the offices of the Personnel Research Federation.)

(3) A follow-up study of Cleveland High School Seniors who have taken the O. S. U. Psychological Test.

(4) An evaluation of the personal estimates of candidates for admission as freshmen. This involves statistical study of the various items on the rating scale, with comparisons of the validity of the judgments of high school principals, other

teachers, ministers, physicians, employers and other friends.

Administrative Changes. Professor Hartson also reports some administrative changes at Oberlin. Until this year the people doing active work in the personnel field have been members of the faculty of the Department of Psychology. These members have divided their time between research work and student counselling, with particular reference to vocational information. Now a distinct division has been made between the research agency and the administrative activity. Two new men have been added to the staff, one as *Personnel Officer*, the other as a *Director of Admissions*, with no other duties to perform.

The new Director of Admissions is William H. Seaman, an Oberlin graduate of the class of 1924, who has been doing graduate work at Union Theological Seminary and Teachers College. The Personnel Officer is J. Anthony Humphreys, an Oberlin graduate of the class of 1916. For the last few years he has been Dean of the Chicago Central College of Commerce (Y. M. C. A.). As now organized, the Personnel Office incorporates the Bureau of Appointments, which continues under the direction of Miss Ivanore Barnes.

Connecticut College Personnel Bureau

The following report was submitted by Miss Agnes B. Leahy who directed the work of the Personnel Bureau of Connecticut College since its establishment until June of 1928, and now is on the staff of the Personnel Research Federation.

The service of the Connecticut College Personnel Bureau is not limited to finding openings for graduates, but has been broadly construed as "helping to understand the individual student." To help the individual girl in making her adjustments to life both in and out of college is the aim of the Bureau. It was established in 1922, shortly after the graduation of the third class. Fortunately this was a time in the growth of the College when complete records could be secured for all its graduates, and when a system for collecting and maintaining data about undergraduates from many points of view could be built up. This means that eventually a vast amount of material will be accumulated which should be of great value, not only to the College itself in studying its own group, but also to other institutions for education of women.

Attention is called to a revised outline of the work of the Personnel Bureau printed in the March, 1928, catalogue pp. 140–143. An introductory statement says that "this office viewing itself in its primary aspect as an educational agency, sets for itself two main purposes: (1) It endeavors to do its part in enabling the student to come to a better understanding of herself as a human being and as a woman; and (2) it aids her to understand, as an element of her education, the work of the world,—*i.e.*, the various callings to which human beings devote themselves. The practical value of these purposes consists in the fact that they aid the individual in making a more intelligent choice as to her own life interest."

In carrying out these two functions—analysis of the individual and analysis of the work of the world—the Bureau undertakes several activities: (1) working with *undergraduates* in course; (2) securing occupational and other information regarding *Alumnae;* (3) collecting and disseminating *Vocational Information;* (4) maintaining a *Placement* service for Seniors and Alumnae; (5) carrying on a *Research* program.

The following abstract of the Annual Report of the Director of the Personnel Bureau, submitted to its Advisory Committee and to the Trustees in June 1928, shows the practical side of the work, as it comes under these five headings. The report is preceded by a foreword, offered more or less as a caution or explanation referring to the catalogue outline, saying "In the light of such an emphasis, any attempt to report the accomplishments of the Bureau seems to move away from these broader aims into mere enumerations, classifications of conferences, interviews and placements. While these, of course, are necessarily important parts in carrying forward an educational program, they must not be considered an end, but rather some of the

many ways of coming to a better understanding of the student. This report will not try to indicate what these endeavors may mean to the students and what the proper study of the accumulated data may mean to the college, though I believe the coördination of all existing agencies within the college in the service of these two groups is the only justification for work of a Personnel Bureau."

(1) *Undergraduate.* A detailed report is given of the work with students in course which includes securing data for the Personal History Cards; classifying the information collected; giving and correlating psychological tests in coöperation with the Psychology Department; (these were Thurstone's tests obtained from the American Council on Education; for the Class of 1931, the correlation of first-term marks with the psychological scores was .34); holding regular interviews with Freshmen and Seniors besides the usual sort of personal interviews sought by the students themselves; and discussing with departmental heads the students majoring in their subjects.

Particular attention is given to the Freshman Interview, held for the first time this year by the personnel office. To quote from the report: "The purpose of this interview was to discover if possible 'the kind of girl' we have here. We tried to learn such points as: whether she is more interested in courses or in marks; in ideas or in people; whether she is introvertive or extrovertive in type; whether she has a definite purpose in terms of which she wisely distributes her time; her plans after college, if any; her general reaction to her living here. An interview card was written up during and after the interview. . . . . Besides what the office got out of the interview, of great value to the understanding of the girl, and as a foundation for further study, much misinformation was corrected; certain wrong attitudes, impressions, and points of view were cleared up; and inquiries were directed to the proper source for answer." While a full report of these interviews was written only for the President, parts of it of special interest to certain departments, were abstracted and given to them.

(2) *Alumnae.* This office, unlike many personnel offices, is the only college agency that keeps alumnae records (The Alumnae Association is relatively too small and young a group to maintain a regular Alumnae Secretary and office, as yet). The alumnae records are made up-to-date by an annual questionnaire, from which an Alumnae Register is published, containing not only the names, addresses, and occupations of all graduates, but also classified data, and occupational, geographical, and other distributions. The occupational information secured from these questionnaires is extremely valuable to the Director, in making studies of various vocations for women, salary ranges within occupations, problems of turn-over, training, etc. which are helpful in distributing occupational information to undergraduates.

(3) *Vocational Information.* Three methods of accumulating and keeping up-to-date vocational information of particular value to Connecticut graduates are noted.

The first is, building up a vocational shelf and file of current periodicals, news sheets, and books on vocations. The college library also adds annually books suggested by this department from a bibliography that has been prepared for its own use.

The second method of securing information is through field work done by the Director of the Bureau, and through a definite attempt to follow up certain fields each year with the coöperation of departments of the College. For example, the fields of political science, history and music were investigated, with the help of the members of the faculty concerned.

The third method, that of holding Departmental Conferences on Occupations for Women, has had the most practical results. To quote from a small folder, which also lists the speakers of the year: "The purpose of these informal conferences, planned particularly for Seniors, though open to all students, obviously is to help the undergraduate understand the work of the world, that she may make a more intelligent choice

of her own life interest. Since every department cannot be represented each year, consideration is given both to the occupations about which most inquiries are made, and to the recency of departmental representation.

"The speakers are usually chosen either because they have done an outstanding piece of work in a specific field, or because they have some special connection with the field in general. In order that the students may become acquainted not only with the broader educational and informational facts of the field, but also with the points in it of practical value to the Senior who expects soon to choose her own profession, the Personnel Bureau suggests that the speaker cover the following points: description of field and kinds of positions open to women; training recommended; required qualifications; methods of entrance; salaries and other compensations; opportunities for development.

"At the close of the lecture, discussion and questions are encouraged. Usually a brief resumé of what Connecticut College Alumnae are doing in this field is given by the Director of the Bureau."

Speakers from off-campus, particularly if they are actively engaged in the work about which they are talking, are appreciated more than faculty speakers. Confining or limiting the point of view of the speaker, to insure his including the points of interest to the students, gives an impartial point of view and avoids too much generality as well as the temptation for the speaker to be either too enthusiastic or pessimistic about his field. Coöperation with departments both in securing speakers and in encouraging students to come, brings the personnel work into a closer relation with the faculty. Opening these conferences to all students, even though they are primarily planned for the Seniors, is part of the process of educating students in course. (From such a scheme might well develop a carefully planned course on "the work of the world," which is an important study, as yet unrecognized by most institutions.)

(4) *Placement.* The Personnel Bureau has never overemphasized the placement side of its work. Placement is the natural outcome of good personnel work. The Personnel Office acts as a central repository for information regarding students and information regarding opportunities available to college women. A record of placements made tends to give a wrong impression since it does not at all indicate either the contacts made or the work done which later result in placement. If the proper amount of educational personnel work could be done there would be little need of a placement service. The records as far as June 1st are as follows:

TABLE 1

For the Class of 1927

PLACEMENTS BY BUREAU	TEACHING	OTHER PROFESSIONS	TOTAL
	per cent	*per cent*	*per cent*
Directly	14	25	39
Indirectly	13	8	21
Total	27	33	60

For the Class of 1928—All interviews but one, were complete; 19 students were already placed, and there was the same number who were about to secure positions.

The Alumnae, too, naturally come in for a share of the placement work. Occupational adjustment does not stop with the first position secured. The alumnae questionnaire furnished an "Active List." Six hundred and ninety-five sets of credentials of Alumnae and Seniors were checked in and out, giving an indication of the number of calls for the Bureau's service.

Both undergraduate and alumnae are helped in securing summer work. The system of securing information about these registrants and about opportunities for summer work is similar to that followed for regular employment. Forty-two registered for work during the summer of 1928. *Self-Help* is also part of the placement problem. Students desiring part-time or temporary employment during the college year are interviewed and registered. Nineteen were registered this year. The jobs for this group are few and limited to opportunities within the college, since Connecticut is not a city college. Last year they were

such as clerical, secretarial, or office help, typing, switchboard, laboratory, library, copying, housework, assisting professors, and taking care of children.

(5) *Research.* A number of studies were made for the use of the college. These include the study of alumnae records, already mentioned, and several other minor studies such as one of the teaching profession, and one of graduates having done further study. In these first years it is inevitable that more should have been done to establish contacts, acquire a method and technique for securing vocational information and collecting data regarding students than in making studies of the materials so gathered. Indeed, for the most part, these will not be of great value for scientific study until more have been collected. Much time and thought, however, has been spent in this office in following closely the recent scientific developments and personnel experiments, and in applying them to the program at Connecticut College.

The Director's report goes into some detail to bring to the attention of its Advisory Committee and Trustees the work of the American Council on Education, Committee on Coöperative Experiments in Personnel Methods. The recommendations with which the report closes indicate that the College plans to progress along the lines emphasized by this Committee. These four recommendations which have been approved by the Advisory Committee are:

1. Adoption of a new Personal History Card.
2. Adoption of a new Rating Scale. In both of these recommendations, the cards and scales of the American Council are suggested for experimental use.
3. The use of more tests.
4. More intensive presentation of occupational information.

Columbia University

Thirty-five courses in industrial relations, labor problems, personnel administration, factory management, vocational psychology and vocational guidance, vocational and psychological tests, and related subjects are listed in the 1928–1929 announcement of Columbia University recently issued.

THE NATIONAL COMMITTEE FOR MENTAL HYGIENE

Foundation for Mental Health

The establishment of a new philanthropic foundation, known as The American Foundation for Mental Hygiene, Incorporated, was announced at the 19th Annual Meeting of the National Committee for Mental Hygiene held November 8th at the Hotel Pennsylvania, New York.

The announcement was made by Dr. Arthur H. Ruggles, Chairman of the Executive Committee of the National Committee, who characterized the project as a "permanent guarantee of the continuance of the work begun twenty years ago for better treatment of the insane and the feeble-minded, the reduction and prevention of mental and nervous disorders and defects, and the promotion of mental health."

Mr. Clifford W. Beers, founder of the mental hygiene movement and Secretary of the National Committee for Mental Hygiene, declared that it is the first Foundation organized "for the exclusive purpose of financing and doing work that will enable men, women and children to live happier, healthier and more efficient lives through a better understanding and management of the processes of their minds and of the controlling forces in human behavior."

The officers of the Foundation are: *Honorary President*, William H. Welch, M.D.; *President*, Arthur H. Ruggles, M.D.; *Vice Presidents*, James R. Angell, Rt. Rev. William Lawrence, D.D., and William L. Russell, M.D.; *Treasurer*, Frederic W. Allen; *Secretary*, Clifford W. Beers. The trustees of the Foundation include, besides the officers named, the following laymen and physicians: C. Floyd Haviland, M.D., W. Curtis Bok, Charles P. Emerson, M.D., Charles A. Stone, William A. White, M.D., Frankwood E. Williams, M.D., Harry P. Robbins, Bernard Sachs, M.D., Clarence J. D'Alton, M.D., Lindley H. Hill, and George L. Wallace, M.D.

International Congress of Mental Hygiene

Plans for the First International Congress of Mental Hygiene to be held at Washington, D. C., in May, 1930, were adopted at the Annual Meeting mentioned above. Mr. Clifford W. Beers announced that funds sufficient to guarantee the basic expenses of the Congress have been made available through the American Foundation for Mental Hygiene, a corporation recently organized for the support of national and local committees, institutions and agencies engaged in work for the prevention and control of mental and nervous diseases and the promotion of mental health in all parts of the world.

Out of the Congress is expected to come an International Committee, with headquarters in this country, which will act as a clearing house for information on all phases of the subject and as the coördinating mechanism for the development of programs of activity and study in the field of mental hygiene for the benefit of all countries. At a meeting of the Organizing Committee of the International Committee held in Paris last year, Mr. Beers found a keen desire on the part of European leaders of the movement to attend the Congress and study at first hand the methods and measures which have been developed in the United States during the past decade.

EASTERN COLLEGE PERSONNEL OFFICERS

The Fall Meeting

The fall meeting of the Eastern College Personnel Officers was held Friday, November 9th, at Yale University. The program, arranged by Mr. M. N. McKnight of the Columbia University Placement Bureau, and Dr. A. B. Crawford, Director of Personnel at Yale, was formulated as an experiment to test the advantages of informal discussions and group conferences over formal papers and speeches. This follows the original intentions of the E. C. P. O. to emphasize the values gained from informal exchange of ideas and projects. The consensus of opinion seemed to indicate that this method of meeting was approved by the members.

The following sets of Round Table Discussions were held:

(1) *Present methods and problems of senior and graduate placement work in men's colleges.* Mr. H. F. Taylor, Worcester Polytechnic Institute, Discussion Leader.

(2) *Present methods and problems of senior and graduate placement work in women's colleges.* Miss Alice I. Perry Wood, Wellesley College, Discussion Leader.

(3) *Students' vocational committees and classes in vocational opportunities in women's colleges.* Miss Helen M. Voorhees, Mount Holyoke, Discussion Leader.

(4) *Present methods and problems of term-time and summer employment in men's colleges.* Mr. Pennell Aborn, Massachusetts Institute of Technology, Discussion Leader.

(5) *Present methods and problems of term-time and summer employment in women's colleges.* Miss Lucy O'Meara, Radcliffe College, Discussion Leader.

(6) *Organization of a Bureau of Personnel.*
   a. Educational and vocational counseling.
   b. Central cumulative records.
   c. Coöperation with other university officers. Mr. Albert B. Crawford, Yale University, Discussion Leader.

(7) *Personality ratings—Rating scales.* Mr. Norman H. Abbott, Boston University, Discussion Leader.

(8) *Practical uses of psychological tests.* Miss Mabelle B. Blake, Smith College, Discussion Leader.

(9) *Publicity for college placement work.* Mr. W. E. Nightingale, Northeastern University, Discussion Leader.

In addition to these small group meetings, the entire organization was addressed at luncheon by President James R. Angell, and at dinner by Dean Herbert E. Hawkes, and an undergraduate, Mr. Ralph Delano

Paine. In a manner that was indicative of his unusual perception and understanding of a whole situation, President Angell gave a brief survey of the personnel field in education, characterizing the proper attitude of a college personnel office as that of a "service station."

Dean Hawkes traced the development in personnel work at the college level, with particular reference to the experimental work in the improvement of tools necessary for a complete picture of the individual student. His explanation of the personal history card, devised by one of the subcommittees of the Committee on Personnel Methods of the American Council on Education, not only made clear the value of a cumulative record card, but also made the card itself seem less formidable and difficult to handle than it first appeared to some of the busy personnel officers present.

Mr. Ralph Delano Paine read a paper entitled *Personnel Work in Relation to Orientation and the Curriculum* or *What the Student Wants of College*. This paper contained some of the results of a student study of the problems which undergraduates face in trying to make intelligent decisions both regarding their undergraduate courses and their work after college. Mr. Paine then showed how a college personnel office could help in giving impartial, unprejudiced information about courses and vocational opportunities.[1]

At the annual business meeting the following officers were elected: *President*, Dean Paul Nixon, Bowdoin College; *Vice Presidents*, Mr. M. N. McKnight, Columbia University; Miss Eva Mooar, Pembroke in Brown University; Mr. H. F. Taylor, Worcester Polytechnic; *Secretary*, Mr. W. E. Nightingale, Northeastern University; *Treasurer*, Mr. Pennel N. Aborn, Massachusetts Institute of Technology; *Executive Committee*, Mr. A. B. Crawford, Chairman, Yale University; Mr. Francis J. Neef, Dartmouth College; Miss Mabelle Blake, Smith College.

[1] Verbatim reports of these three speeches will be printed in the proceedings of the association, and may be secured from the secretary, Mr. Norman H. Abbott, Boston University.

FORTHCOMING MEETINGS

The annual meeting of the *Taylor Society* will be held in New York at Rumford Hall, Chemists Club, 52 East 42nd Street, December 5–7. Several topics of interest to personnel workers were listed in the November issue of the SERVICE BULLETIN.

The *American Vocational Association* will hold its annual meeting in Philadelphia, December 12–13.

The joint annual meeting of the *American Economics Association*, *American Statistical Association*, and related social science groups will be held in Chicago, December 26–29.

The *American Psychological Association*, and other societies affiliated with the American Association for the Advancement of Science, will hold their joint annual meeting in New York at Schermerhorn Hall, Columbia University, December 27, 28, and 29. Papers of general and theoretical interest will be placed in the sessions on Thursday, December 27. Saturday, December 29, will be devoted to sessions of the Section of Clinical Psychology.

PERSONAL ITEMS

MISS WINIFRED SPIELMAN of the staff of the British National Institute of Industrial Psychology arrived in the United States on October 9 for six months of travel and of conference with American industrial psychologists. Her two main interests are vocational selection and applications of psychological principles to the organization of life and work in the home.

MAJOR L. URWICK, distinguished British exponent of scientific management practice and student of industrial relations, has been appointed Director of the International Institute of Management in Geneva, succeeding M. Devinat.

MISS M. L. FLEDDÉRUS, Vice President of the International Industrial Relations Association (I. R. I.), is in the United States for a few months, in the interest of international exchange of thought and experience with reference to the study and improvement of human relations and conditions in industry.

DR. EDOUARD CLAPARÈDE, founder of the *Institut J. J. Rousseau* and Professor of

Experimental Psychology in the University of Geneva, has been given a year's leave of absence to accept an invitation from the Egyptian government to study their national educational system and to plan a reorganization of procedures of the normal schools in selection and training of teachers.

MR. SAMUEL BILLINGS CUMMINGS, JR. has joined the faculty of Dartmouth College as instructor in personnel psychology and advertising psychology.

DR. ELEANOR LANSING DULLES has been appointed to the position formerly held by Dr. Dorothy Sells in the Department of Social Economy and Social Research at Bryn Mawr College.

MR. WILLIAM H. SEAMAN has been appointed Director of Admissions at Oberlin College.

MR. J. ANTHONY HUMPHREYS, formerly Dean of the Chicago Central College of Commerce (Y. M. C. A.), has been appointed Personnel Officer at Oberlin College.

Current Periodicals

PREPARED BY LINDA H. MORLEY, *Industrial Relations Counselors, Inc.*

AGE

GIESE, FRITZ. *Erlebnisformen des Alterns.* Deutsche Psychologie, Vol. 5, p. 75–160. 1928.

Bodily, mental and occupational signs of senescence. Analysis of questionnaire data.

METROPOLITAN LIFE INSURANCE COMPANY. *Age distribution and relative earning capacity of our American population.* Statistical Bulletin, Vol. 9, p. 1–4. August, 1928.

Gives tables showing: Age constitution and earning capacity of population of the United States at successive periods; Prospective populations. Also a chart showing "Age distribution and relative earning capacity."

AMERICAN FEDERATION OF LABOR

COOPER, LYLE W. (Marquette University). *American Federation of Labor and the intellectuals.* Political Science Quarterly, Vol. 43, p. 388–407. September, 1928.

Attitude of trade unions towards experts in various economic subjects.

APPLICATIONS FOR POSITIONS

WINGATE, I. B. *Getting a job in a retail store.* Journal of Retailing, p. 24–29. July, 1928.

BONUS SYSTEM

KIFT, D. B. (General Superintendent, Edison Electric Appliance Company). *How group bonus aids the superintendent.* Manufacturing Industries, Vol. 16, p. 419–420. October, 1928.

Foremen and workmen share in the effort to cut costs because of their personal interest in the results.

BUDGETS

LABOR BUREAU, INC. *Living wage—June, 1928.* Facts for Workers, Vol. 6, p. 1–2. September, 1928.

Family budgets revised. Table gives "amount of yearly expenditure necessary" for minimum health and decency budget and a skilled workers' budget.

CLASSIFICATION

LUNDBERG, EMMA (Chairman, Census Committee, American Association of Social Workers). *Tentative classification of social work occupations.* Compass, Vol. 10, p. 3. September, 1928.

Plan worked out to be used by the U. S. Census Bureau.

COST OF LIVING

NATIONAL BUREAU OF ECONOMIC RESEARCH. *Changes in the cost of living 1909–1928.* News-Bulletin of the National Bureau of Economic Research, no. 29, p. 1–4. September 10, 1928.

Farm hands' dollar nearest 1913 value. Families in $5,000 a year group benefit by price declines since 1926. Five indexes cover all important groups.

NATIONAL INDUSTRIAL CONFERENCE BOARD. *Worker's earnings and his budget.* Conference Board Bulletin, no. 21, p. 165–167. September 15, 1928.

Statistical evidence compiled by the Bureau.

EDUCATION

Money value of education. Conference Board Bulletin, no. 22, p. 179. October 15, 1928.

Statistics compiled by Dr. E. W. Lord, Dean of the School of Business Administration, Boston University.

EMPLOYMENT–STATISTICS

BERRIDGE, W. A. *Employment.* American Journal of Sociology, Vol. 34, p. 92–99. July, 1928.

EMPLOYMENT DEPARTMENT

LAMB, J. J. (Director of Personnel, W. F. Hall Printing Company). *Relation between the employment department and the foreman.* Personnel, Vol. 5, p. 236–242. November, 1928.

Summary of the points on which the foreman sometimes objects to the employment department.

EXECUTIVES

BERGEN, HAROLD B. (Manager, Personnel Department, Henry L. Doherty & Co.). *Two fundamentals of satisfactory executive-subordinate relationships.* Management Review, Vol. 17, p. 327–331. October, 1928.

Suggestions as to methods to be used by executives in particular conditions.

FATIGUE

SHEPHARD, GEORGE H. (Purdue University—School of Mechanical Engineering). *Effect of rest periods on production.* Personnel Journal, Vol. 7, p. 186–202. October, 1928.

Professor Shephard's findings, based on laboratory experiments, corroborate the results of other research workers, as well as the practical experience of leaders of men—that on light-heavy muscular work one sixth of the time should be devoted to rest.

HEALTH

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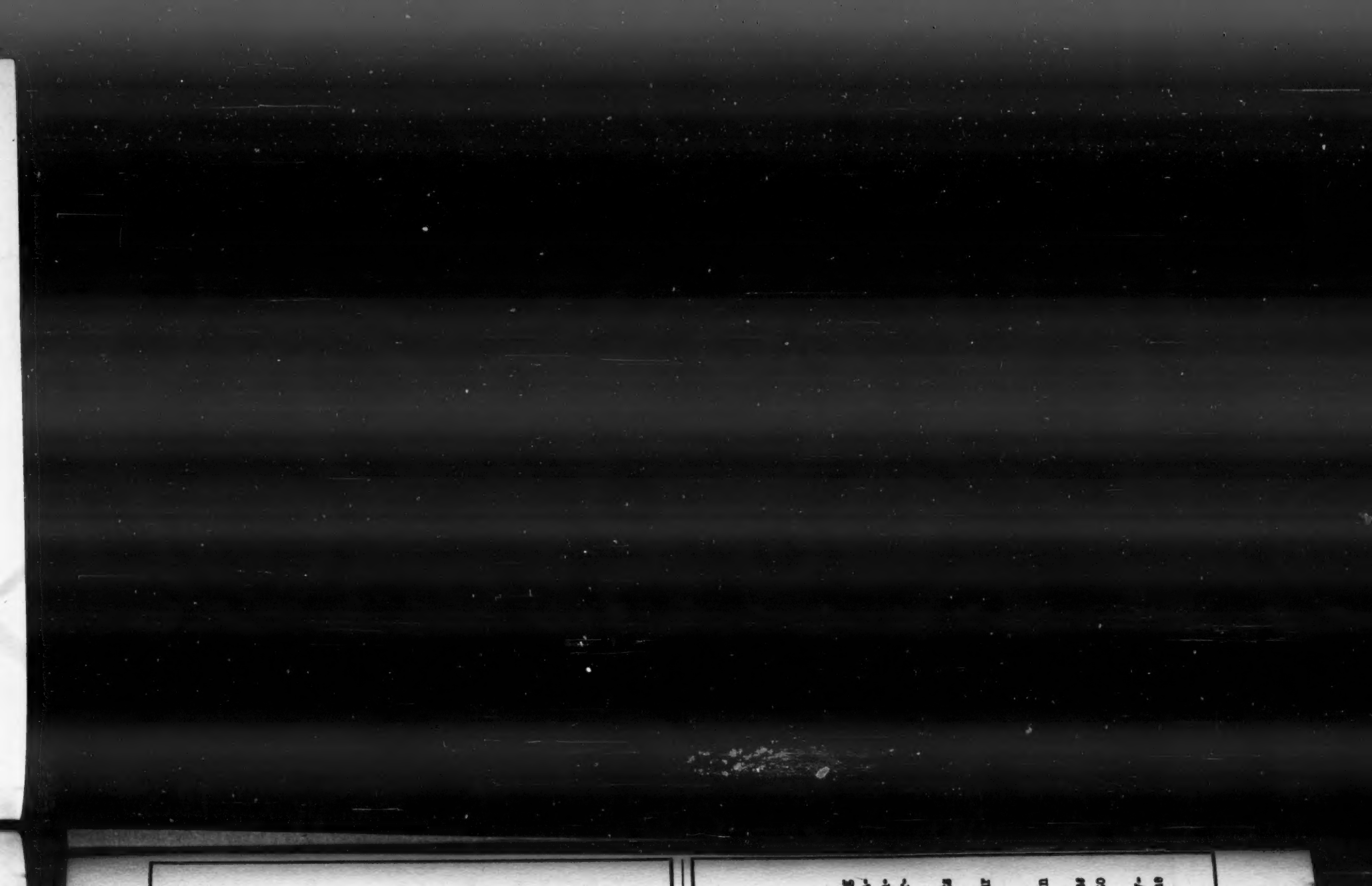

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